

AIA

JOURNAL

of The American Institute of Architects.

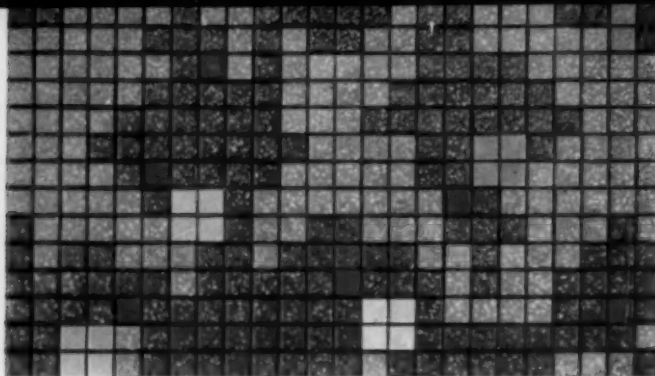
January 1959



CLAY: Urban Design Criticism

MUMFORD: The Lesson of the Master

STRICKLAND: Plimoth Plantation



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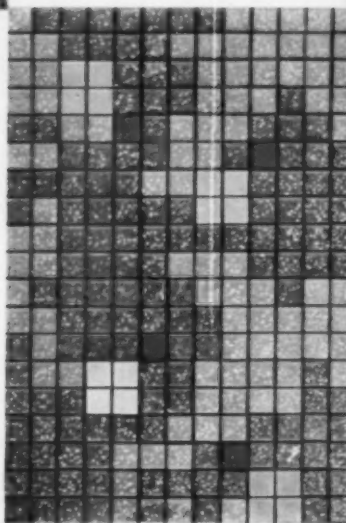
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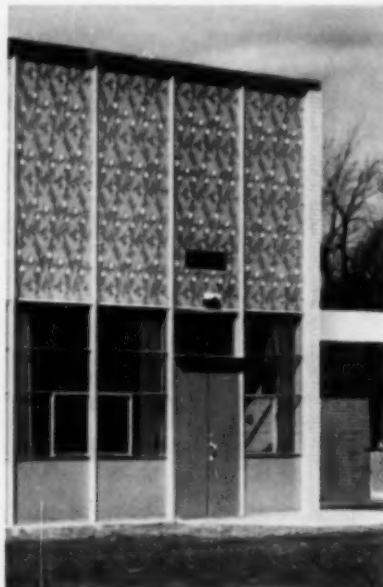


Plate No. 1057

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Brownstown Township, Michigan

Architect:

WALTER J. ROZYCKI
Detroit, Michigan

Tile Contractor:

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JOURNAL

of The American Institute of Architects

VOLUME XXXI, No. 1

JANUARY 1959

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COVER: *The sketch of The Octagon is by Edwin Bateman Morris, Jr. AIA.*

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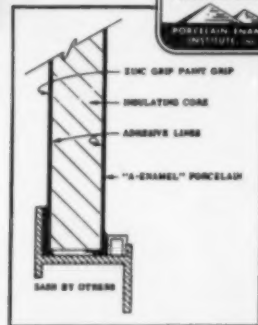
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CALENDAR

January 4-31: "Architecture in Manitoba" and exhibition organized by the Manitoba Association of Architects at the Winnipeg Art Gallery, Winnipeg, Canada.

January 27-30: 15th Annual Technical Conference, Society of Plastic Engineers, Inc., Hotel Commodore, New York, New York.

January 29-31: 1959 Annual Meeting, Province of Quebec Association of Architects, The Alpine Inn, St. Marguerite, P.Q., Canada.

February 2-3: Joint conference on Designing the Indoor Environment, sponsored by the University Engineering Extension, University of California, Los Angeles, California.

February 5-7: 1959 Convention and Annual Meeting, Ontario Association of Architects, Royal York Hotel, Toronto, Ontario, Canada.

February 23-26: Annual Convention, American Concrete Institute, Statler Hilton Hotel, Los Angeles, California.

March 9-11: Meeting of Board of Directors, The Octagon, Washington, D. C.

March 10-12: AIA-NSF Conference on Basic Architectural Research, University of Michigan, Ann Arbor, Michigan.

March 13-14: Middle Atlantic Regional Meeting, Greenbrier Hotel, White Sulphur Springs, W. Virginia.

April 18-25: Historic Garden Week in Virginia, Sponsored by the Garden Club of Virginia.

April 24-25: Great Lakes Regional Conference, College of Architecture and Design, Ann Arbor, Michigan.

April 25-May 10: Twenty-second annual Maryland House and Garden Pilgrimage.

June 10-13: British Architects' Conference, Cardiff, Wales.

June 30: Tile Contractors' Association Convention, Chicago, Illinois.

Necrology

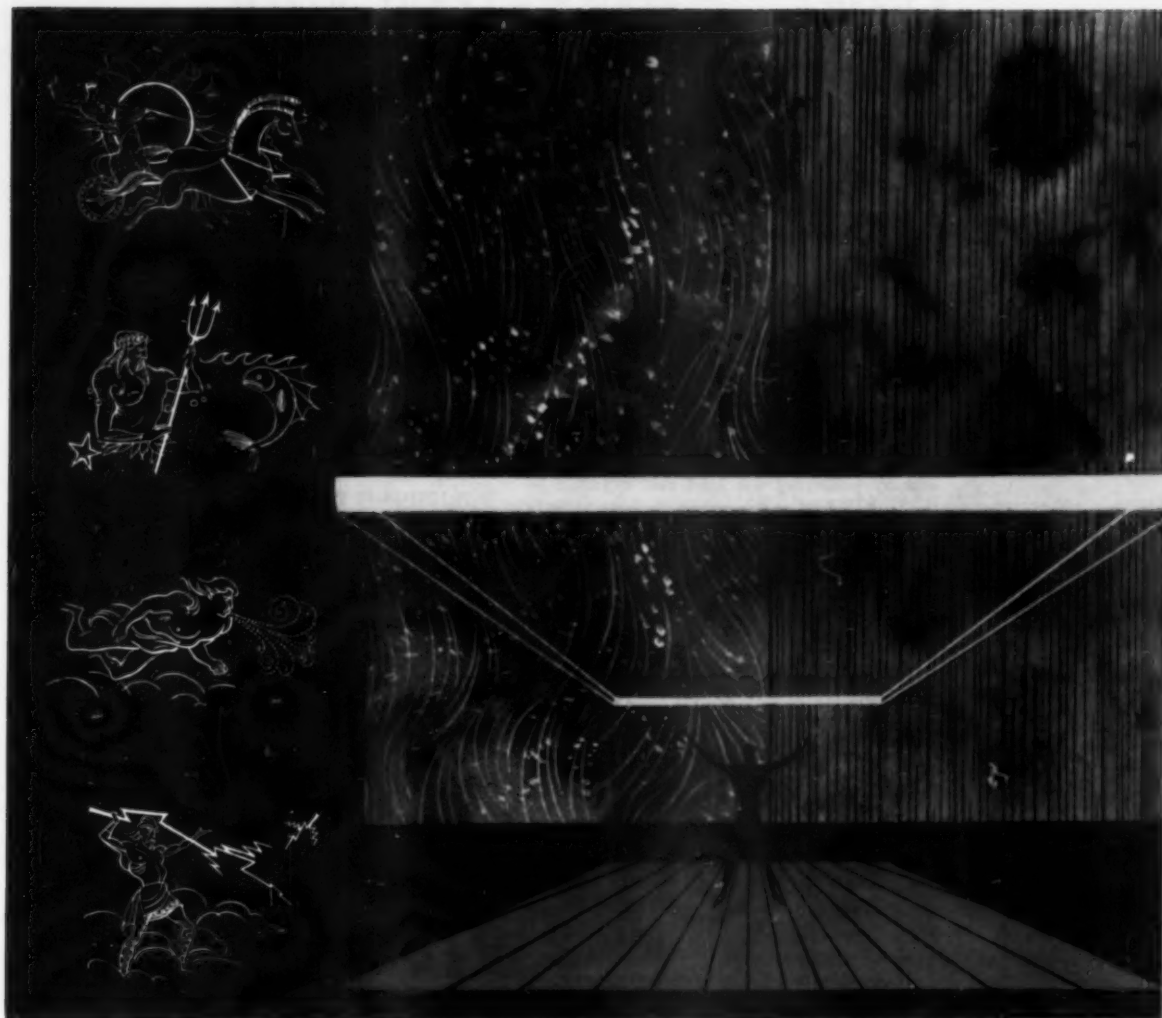
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Disciplinary Action

DISCIPLINARY actions as shown in the following tabulation have been taken by The Board of Directors of the Institute at its November 10-15, 1958, meeting:

Member	Violation	Penalty
C. Dale Dykema Florida Central Chapter	Mandatory Rules Nos. 2, 9, 10, and 15	Termination of member- ship
Philip W. Kessler Alabama Chapter	Mandatory Rule No. 12	Termination of member- ship
Adolphe H. Knappe and Henry Johnson New York Chapter	Mandatory Rule No. 12	Censure
Thomas D. McLaughlin Architects Society of Ohio	Mandatory Rule Nos. 14 and 15	Suspension of membership for one year
Frederick W. Raeuber Wisconsin Chapter	Mandatory Rule No. 9	Termination of member- ship



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Letters to the Editor...

Bouquets

EDITOR, *Journal of the AIA*:

Three Cheers for Mr. Temko's pointed review of architecture in America today. We need more of this frank and objective appraisal of ourselves. By facing the truth and by following the lead and example of the truly gifted and inspired we may be able to produce great architecture.

CHARLES MONTTOOTH
Scottsdale, Arizona

EDITOR, *Journal of the AIA*:

You are doing a tremendous job! (That little—"how we're doing" card does not have enough space.)

The *AIA Journal* now has instructive information written in a manner to arouse the non-readers from their long sleep. You are approaching architecture as something alive and living and I am sure it will continue to get better. The participation of members from every region with crisp articles should keep our curiosity stimulated and architecture will not be thought of as a nice old profession confined to one geographical zone.

Congratulations on your splendid progress.

ARTHUR FEHR, FAIA
Austin, Texas

Comments

EDITOR, *Journal of the AIA*:

Almost all contemporary architecture appears to defy all the time-honored principles of design—proportion, balance, cohesion.

Commercial buildings are without sides, bottoms or tops. They resemble block beehives with the fronts removed. One feels it is indecent exposure.

Dwellings resemble gas and comfort stations. Within, they look much like business reception offices, to which has been added a peculiar fireplace (which must be bound, to smoke) and a round stovepipe flue sticking up above.

A fascinating book "On the Art of Writ-

ing," written by the Professor of English Literature at Jesus College, Cambridge, quotes from Sir Joshua Reynolds, addressing members and students of the Royal Academy:

"Does he recommend the Old Masters for copying? Not a bit of it. Listen: 'The more extensive your acquaintance is with the works of those who have excelled, the more extensive will be Your power of *Invention*. And what may appear still more like a paradox, the more original will be your conceptions.'"

"And he quotes from Cervantes: 'The great Homer wrote not in Latin, and Virgil wrote not in Greek; all the ancient poets wrote in the tongue which they sucked in with their mother's milk, nor did they go forth to seek for strange ones to express the greatness of their conceptions.'"

"Will you tell me, 'Oh, painting is a special art, whereas nay one can write prose passably well/ can he, indeed?'"

HARRIS C. ALLEN, FAIA
San Francisco, California

Bendiner

EDITOR, *Journal of the AIA*:

I find many of the articles in the *Journal* instructive and valuable. Bendiner's page, particularly his September contribution, is inspiring and comforting. That you publish this stuff is a tribute to your sense of humor and to your feeling for balance and values. These, after all, seem pretty much one and the same thing.

FRANK STANTON
Seattle, Washington

EDITOR, *Journal of the AIA*:

What in the world have you done to (or with) Bendiner? Believe it or not, I miss him! Perhaps he is for the moment, off somewhere, studying French.

HARRY F. CUNNINGHAM, FAIA
Lincoln, Nebraska

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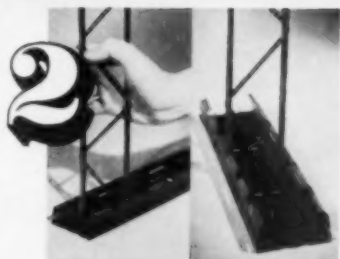
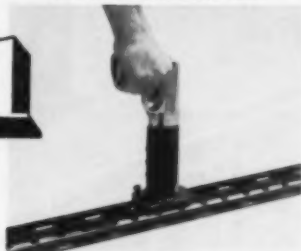
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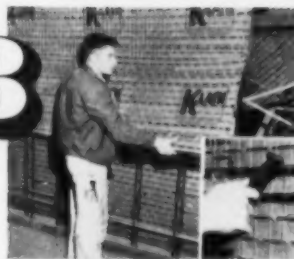
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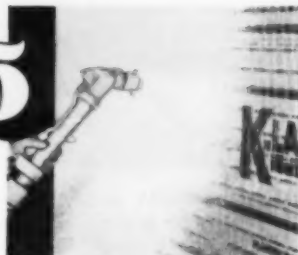
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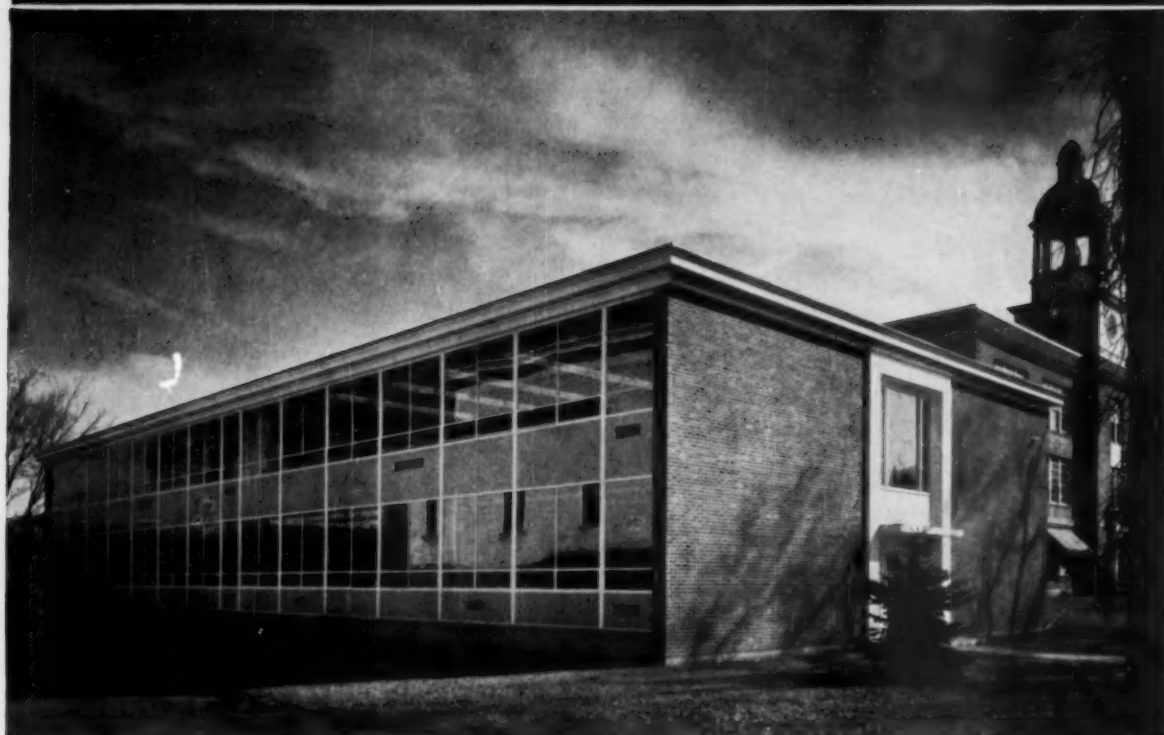
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JOURNAL

OF THE AMERICAN INSTITUTE OF ARCHITECTS

VOL. XXXI, NO. 1

JANUARY, 1959

Opinions expressed by contributors to the AIA Journal are not necessarily those of the AIA

The Architecture of Plimoth Plantation

CHARLES R. STRICKLAND, AIA

The author, who served as architect for the restoration of the first settlement of the Pilgrims at Plymouth, Massachusetts, is a member for New England of the AIA Committee on Preservation of Historic Buildings.

IN JUNE OF 1957, the Bark "Mayflower II" sailed into Plymouth Harbor. This magnificent display of seamanship on the part of Captain Villiers and his gallant crew caught the imagination of the entire country. During the time that she was being built in Brixham, England, my office was completing the working drawings for the reconstruction of the First Street of Plimoth Plantation as of June 1627, which with the Fort-Meeting House and surrounded by its palisado, together with a Grist Mill, Trading Post and Indian Village, will form the exhibits with "Mayflower II" at the new site of Plimoth Plantation in Plymouth, Massachusetts. Plimoth Plantation was founded as an educational corporation to tell graphically the story of the Pilgrims.

Until such time as the entire Plantation could be created on a suitable site, three buildings were erected adjacent to Plymouth Rock on the State Reservation. We first built a typical early permanent dwelling house, then the Fort-Meeting House and finally a house of the period 1627.

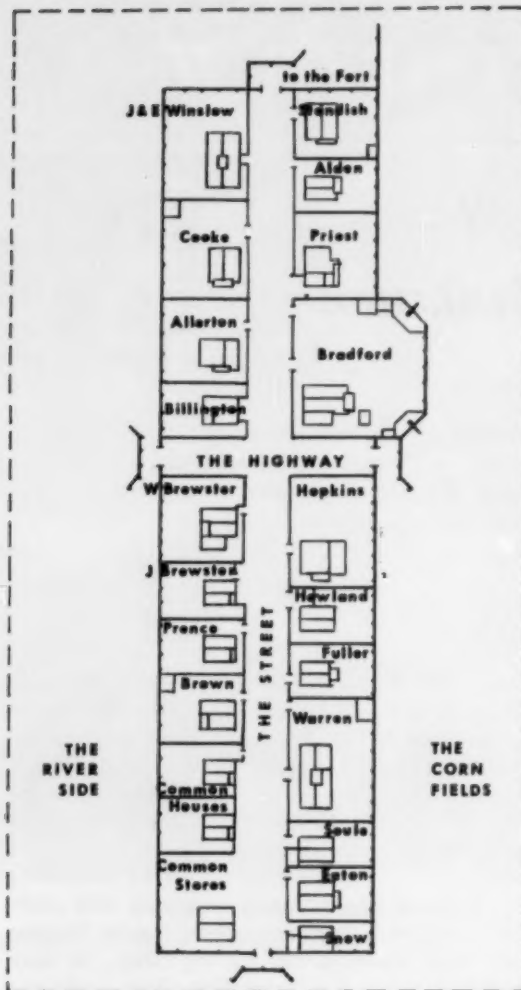
When Plimoth Plantation was founded in 1948 we had been for some years before the war doing research work and archaeological digs of some of the earliest 17th century dwellings in the area with a view to determining just what type of construction was used during the first ten years of Plimoth Plan-

tation. The fundamental manuscript for Plymouth Colony is the famed "Of Plimoth Plantation," written by Governor William Bradford. These annals of the Colony are from its inception to 1647. Although this manuscript has been helpful in the general development of the original Plantation, Bradford omitted such details as the methods and types of construction used.

Since we were primarily concerned with methods in order to further our argument that the Pilgrims built frame dwellings and not log cabins, we were interested in any other manuscripts which would give eyewitness accounts. The most important of these is the letter which Isaack de Rasiers wrote to Samuel Blommaert, a merchant in Amsterdam in 1628. de Rasiers was Secretary of the Colony of New Netherland (New York) and visited the Pilgrim Trading Post at Aptucxet and Plymouth in order to establish trade relations. Herewith are excerpts:

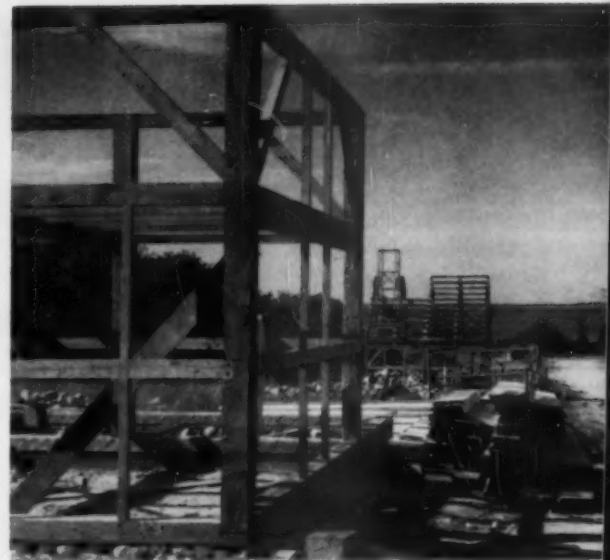
"New Plymouth lies on the slope of a hill stretching east towards the seacoast, with a broad street about a cannon shot of 800 feet long, leading down the hill; with a [street] crossing in the middle, northwards to the rivulet and southwards to the land. The houses are constructed of clapboards with gardens also enclosed behind and at the sides with clapboards

THE HOUSE LOTS IN JUNE OF 1627. THE DIVISION IS BASED UPON THE NUMBER IN EACH FAMILY ON THE BASIS OF ONE AND A HALF ROD PER PERSON.



14

so that their houses and court-yards are arranged in very good order, with a stockade against a sudden attack; and at the ends of the streets there are three wooden gates. In the center, on the cross street, stands the Governor's house, before which is a square stockade upon which four patereros are mounted, so as to enfilade the streets. Upon the hill they have a large square house, with a flat roof, built of thick sawn plank, stayed with oak beams, upon the top of which they have six cannon, which shoot iron balls of four and five pounds, and command the surrounding country."



As may be seen from the accompanying illustrations, the re-creations which we designed were of frame construction, covered with sawn planks. Our studies into sixteenth and seventeenth century buildings in England produced not one example of the frontier type of log cabin construction being practiced in the Nordic countries and which was first introduced to this country when the Swedes settled in Delaware in 1638. This same theme has been further explored in "The Log Cabin Myth," Harold R. Shurtleff, edited by Samuel Eliot Morison. We started with the premise that the Pilgrims constructed their buildings in a manner and of a type to which they were accustomed. Therefore, a study was first made of the plans of English cottages of the period. These cottages were of frame construction. This method was referred to in the seventeenth century as a "faire" or frame house, a house built in "the English manner" in contradistinction to the more prevalent usage of masonry on the continent.

In order to determine what provisions the Pilgrims made for bringing tools with them and the types that they may have had, a study of wills and inventories of 1631 to 1640 was compiled by Plimoth Plantation.

The trade of each male passenger on the Mayflower is not known; however, we do know that there was one carpenter, Francis Eaton, whose will of 1633 listed twenty different carpenter's tools; one barrel maker, John Alden; and one sawyer. It might be noted here that Myles Standish was a professional soldier by trade and was acknowledged as being of some experience. The training of a soldier in those



LOOKING DOWN THE STREET,
WITH THE FRAME OF THE BRAD-
FORD HOUSE IN THE FOREGROUND
AND THAT OF THE HOWLAND
HOUSE IN THE BACKGROUND.

*All photos in this article by
The Dicksons, Plymouth, Mass.*

days included the art of fortification, which permits us to suppose that he must have had some knowledge of construction methods, since he was later designated to design the Pilgrim fortifications.

We are all creatures of habit and instinctively choose to perform a task in the manner to which we are accustomed by observation or practice. Anyone acquainted with the building trades knows how difficult it is to teach even a skilled artisan a new method. The Pilgrims had lived with frame-type construction and those among them who had been reared in farming country undoubtedly had some knowledge of building, as do farmers today, out of necessity.

Archaeological excavations that have been carried out in the area have borne out the assumption that the Pilgrims designed their buildings along the lines of the English cottage. These excavations have been at the following sites and all are for the period 1627—ca. 1635: The Trading Post at Aptuxet; the John Howland Plantation at Rocky Nook; the Edward Winslow Plantation, Marshfield; the R. M. House site, Eel River, Plymouth.

A great store of information has been unearthed thereby, not only as to the types of buildings which they had but also, through the artifacts that have been brought to light, the manner in which they lived.

With all this information at hand, it was felt that the following lines of reasoning were possible. Starting with the description in Mourt's Relations, "We went on shore, some to fell tumber, some to saw, some to rive, and some to carry. . . ." This would tend to indicate that their plans for building had been carefully thought out and organized long in advance, and

describes succinctly the processes involved in preparing timber for the type of construction that they were used to. Nothing is said of notching, hewing or stripping or otherwise dressing logs for a horizontal log type wall construction.

The basic permanent dwelling unit was a one-room structure of one story in height approximately 14 feet by 18 feet with a fireplace along one end, inside the frame and a loft over part of the room, reached by a ladder for sleeping. To begin the structure, the first consideration is the foundation. Since we found through the excavations that early houses did not have cellars under the main room and that common practice was to lay one course of stones with no mortar directly on the ground, this method was used. Next the oak frame had to be erected. The trees were cut and then trimmed down to a roughly square section with a broad axe and were finish hewn with an adze. For the posts, the tree was upended, as the hardest part is the butt and the greatest strain occurs where the plates and rafters tie into the post. This meant that the posts were larger at the top as they were only roughly shaped. The members were joined together by mortise and tenon. Since the roof was to be thatched, no boarding would be used, so there was no necessity for a finished frame. Oak logs with the bark still on were used to form a series of simple trusses. On these were placed sapling purlins on which were tied the bundles of reeds to form the thatched roof.

The fireplace and hearth were of fieldstone. The span over the opening was bridged with an oak timber, chamfered on the back. From this point up to the top of the chimney a crude frame was built for the flue of oak, which was walled in with wattle and daub. The floor was clean sand spread on the ground. To cover in the walls of the building, rough-sawn two-inch planks with the edges stripped of their bark were decided on as being the most economical of time, in getting out and putting together. These were hung vertically from the plate to the sill and fastened with trunnels, the joints butted together and daubed with clay. The small sliding windows are a crude wood frame on which oiled paper was fastened.

The 1627 period house shows the improvements which were possible with more time available, better equipment at hand and more experienced workmanship. In essence, these later houses were longer and wider and had a heavy hewn oak frame supporting plank walls and a sawn and hewn roof frame. The improvements here were that the plank walls were protected from the weather by clapboards on the exterior and the roofs were of heavy boards run vertically and covered with rough shakes. Window openings were slightly larger and had diamond paned



THE COMPLETED INTERIOR OF THE
HOWLAND HOUSE.

A MUSKET SLOT IN THE FORT-
MEETING HOUSE.



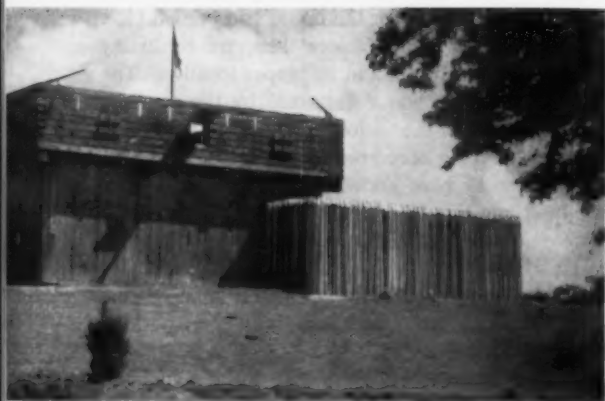
glass set in lead quarles and hinged as casements. Usually one end was almost entirely taken up with a huge stone chimney and fireplace. There is still no oven built in the corner, a development of ca. 1636; instead, coals and ash would be heaped in one corner for baking. The floor now had larger areas of stone paving, with planks laid on the sand under the bed or living section of the room. The entire attic floor is covered in with a hatch and ladder for access where the children and servants slept.

In preparing for the designing of a replica of the Fort and Meetinghouse of 1622-23 the same process of resorting to contemporary references was undertaken. Again the source to turn to first is Bradford. Having had only the most friendly relations with Squanto and Massasoit, there was obviously considerable consternation towards the end of December 1621, when according to Bradford there appeared "... a messenger from the Narihansets with ye sneake-skine back with bullets in it. . . ." And so, as a result of this visit: "But this made them ye more carefully to looke to themselves, so as they agreed to inclose their dwellings with a good strong pale, and make flankers in convenient places, with gates to shute, which wer every night locked, and a watch kept, and when neede required ther was also warding in ye day time. This was accomplished very cher-

fully, and ye Towne impayed round by ye beginning of March, in which evry family had a pretty garden plate secured."

This palisading of the town in effect turned it into a walled garrison with their houses offering further protection from the possibility of unfriendly raids. From the military point of view, this arrangement furnished an almost passive defense. What was now required was a fortification that would afford a commanding position to warn of attacks, not only from the land but from the sea and also would permit of more active defensive measures. So in 1622 our chronicler relates, "This somer they buile a fort with good timber, both strong & comly, which was of good defence, made with a flate rofe & Battlments, on which their ordnance were mounted, and wher they kepte constante watch, espetially in time of danger. It served them allso for a meeting house, and was fitted accordingly for that use."

Before considering the design of the Fort, the reasons for its being built were studied. The Pilgrims desired to construct primarily a protected platform on which to mount their cannon and from which a constant watch could be kept. For these reasons then, the structure should afford protection to the Pilgrims not only from small arms' fire and arrows but also should be of extremely stout construction to



THE FORT-MEETING HOUSE.

THE 1627 PERIOD HOUSE.



withstand any possible seaborne attacks from cannon. The building's secondary usage as a meeting house necessitated only the closing in of the area under the gun platform. Since this space afforded an ideal place for the colonists to gather in the face of any threatened attack, the walls should be of heavy construction with firing slots provided. The building itself is square. A dimension of thirty feet on the ground was arbitrarily chosen as being large enough to accommodate the Pilgrims for their meetings and not too large to build hurriedly. The walls of this meeting area had firing slots on all sides and it is assumed that two small, heavily shuttered windows were placed in the entrance wall to afford further light. As was the practice of the period, the gun platform is projected out, often called "jettied," on an overhang on all four sides. Battlements rise from this deck or platform from which the cannon could be fired in all directions. Slots are spaced in the overhang of the deck to permit rain and snow to drain off and also to fire at anyone trying to breach the walls. Access to this platform was by a ladder leading up through the hatch in the deck over the meeting room.

The Fort was constructed of six inch thick pine planks hung on an oak frame. This oak frame consisted of a sill from which were raised corner, inter-

mediate, and center posts that supported the plate, two summer and two cross summer beams and the deck joists and diagonal, or "dragon," beams. The vertical members were further strengthened by an intermediate horizontal member between the sill and plate and by corner braces.

The deck floor planks were probably four to six inches thick; their edges sawed true, bevelled at the top edge so that the butted joints could be caulked similarly to a boat deck. The battlement walls were ten inches thick with rough, butted joints and had knee braces.

In designing the layout for the palisadoed Plymouth Plantation of June 1627 for the new site, several factors were involved which lead to selecting this date. These were the fact that the first census was recorded earlier that year and in June the "division of cattle" took place. From these two events, we know each of the nineteen family units, not only the parents, alive or deceased, and children, but also the single men and women assigned to each family. From Bradford's recorded street layout of the first seven houses, early Colony records and the sharing of cattle, the remaining twelve "name" houses, common stores house and three common houses could be located. Then later in 1627, the first taxes were assessed the heads of families. The records also tell



THE COMPLETED FRAME OF THE HOWLAND HOUSE.

TYING ON THE THATCH ON THE HOWLAND HOUSE.



THE COMPLETED JOHN HOWLAND HOUSE.



us that for each member of a family unit, $1\frac{1}{2}$ rod in width was allocated for the house and garden plot.

From all of these factors then, we could lay out the size of each plot and its proper location. The size of each house was determined by the age, sex and relationship of the various members of the family as regards sleeping accommodations besides the general living area. Now knowing when the first houses were built and the degree of affluence of the leaders, we were able to determine which would have thatched roofs and which might have had shingles, since the thatch was banned early in 1627; and which would have clapboards and wood floors and even perhaps leaded glass windows.

Since, also in 1627, the first division of lands outside the walled town for individual plantations took place, this then is the final flowering of the original Plimoth Plantation of the earliest permanent settlers in "New" England from England.

The R. S. Reynolds Memorial Award for 1959

THE INSTITUTE HAS ANNOUNCED a new set of regulations for the annual \$25,000 R. S. Reynolds Memorial Award for use of aluminum in architecture.

These new rules increase the emphasis on the creative and architectural value of the structure selected to receive the Reynolds Award.

This international award is conferred annually on an architect who has designed a significant work of architecture, in the creation of which aluminum has been an important factor. Prime consideration will be given to the creative value of the architect's contribution to the use of aluminum and its potential influence on the architecture of our times.

Under the new regulations, an architect may be nominated for the Reynolds Award by anyone—including himself or his firm.

The Reynolds Award Jury selected by the AIA, will give preference to works of architecture completed during the last three years. But the Jury may acknowledge earlier work if it desires.

In addition to the \$25,000 honorary payment, the recipient also receives an appropriate sculptured piece created by a prominent contemporary artist.

Nominations for the 1959 Reynolds Award will be accepted until February 2, 1959. Architects practicing in any nation are eligible.

The Award with the honorarium and the sculptured piece will be formally presented at the annual convention of the AIA in June, 1959.

LEWIS MUMFORD

The Lesson of the Master

THERE IS A quick but accurate way of describing the new skyscraper office building at 375 Park Avenue. It is everything that most of the office buildings that have been going up in the mid-town area in the last few years are not. That the new work gains by this contrast is, happily, the least that can be said in its favor. Almost any piece of sober craftsmanship, however humble its pretensions, would gain by such contrasting, and Seagram's new building, far from being humble, is perhaps the most quietly ostentatious one in the city. But to appreciate the virtues of this building, sheathed in bronze and topaz-tinted glass, one should make a summary canvass of its contemporaries—one can hardly call them its rivals. Among them are greedy buildings, hogging every cubic foot of space the law allows; flashy buildings, with murals in the lobby whose winking leer at art has something less than honorable intentions; gaudy buildings, whose unpleasant colors resemble Detroit's recent favorite hues and in a few years will look similarly old-fashioned; buildings slickly covered with sheets of pressed metal, which are cheaper than stone or brick and which, despite all the decorative embossments, look just that—magnificently cheap; and corner-cutting buildings, often with ceilings so low that their claims to being adequately air-conditioned must be considered brazen effrontery, as their inmates have doubtless been discovering.

Out of this stalled, rush-hour clutter of new structures, brightly sordid, meretriciously up-to-date, the Seagram building has emerged like a Rolls-Royce accompanied by a motorcycle escort that gives it space and speed. To an even greater degree than its elegant neighbor, Lever House, 375 has *ambiance*. From three sides, it is wholly visible to the eye and approachable by foot; instead of using up space, it creates space. This act of detachment from the sur-



Maurey Garber, Photography

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rounding buildings was the most daring of all the innovations its chief architectural designer, Mies van der Rohe, made; by a heavy sacrifice of profitable floor area he achieved for this single structure an effect that usually is created only when a group of buildings are placed together on a plat even larger than a city block, as in Rockefeller Center. Some of that openness will disappear when the vacant block to the north is occupied, but some of it will remain, as in the case of its modest traditional neighbor, St. Bartholomew's Church, a block below on Park Avenue.

In accounting for the qualities that distinguish this edifice, one is safe in assuming that they derive, directly or indirectly, from the Master himself. To acknowledge this is not to diminish the contribution made by his associate, Philip Johnson, an avowed if by now independent disciple, nor does it minimize the necessary donation of practical architectural experience made by those veterans in office-building design, Kahn & Jacobs. The spirit that pervades the building as a whole, the spirit that makes it a whole, is that of Mies van der Rohe; it has the aesthetic impact that only a unified work of art carried through without paltry compromises can have. In their willingness to accept van der Rohe's judgment, rather than that of their realty experts, the Seagram executives deserve, in the cause of art, a special salute.

The Seagram building—which, landscaping and all, occupies an entire blockfront on Park Avenue and half the land between that street and Lexington Avenue—presents itself, first of all, as a single shaft of bronze and glass, thirty-eight stories high (set well back from both Park Avenue and the side streets), roughly a hundred and fifty feet wide and less than ninety feet deep, with five-story wings at either side, and, in the rear, a narrower ten-story wing, which is not visible from the Park Avenue front. Now, when other contemporary architects are still, thirty years later, imitating Mendelsohn's innovation of unbroken horizontal bands of wall and window or van der Rohe's all-glass facade boxed by steel, van der Rohe himself has gone back to Louis Sullivan's concept of the skyscraper as a "proud and soaring thing" and has designed one with unqualified emphasis on the vertical. The prototype of this building was van der Rohe's own project, nearly forty years old, for a glass skyscraper, but, apart from that, this tower is such a divergence from the mode of his Farnsworth house, his Illinois Institute of Technology, and his Lake Shore apartment houses that it must give all the little micelike Mieses who have been coming forth from the architectural schools a touch of panic, for this is not the particular academic cliché they have so sedulously identified with modern architecture. To

make the departure even more unmodish, van der Rohe has also rejected the now standard thin, slab-shaped building, with its long sides acting as a wall that blocks off the vision of the beholder, and with its shallow layout offering a suggestion of openness that becomes insincere once sealed windows, air-conditioning, and day-long indoor lighting have been installed. In the development of van der Rohe, the Seagram building is almost as much of a departure for him as the chapel at Ronchamp was for Le Corbusier, but, unlike Ronchamp, the new building reveals no sloppy abandonment of discipline.

The upward movement of the unbroken central prism is accentuated by the use of narrow, vertical bronze fins, or mullions, not only to separate all the windows, which run from floor to ceiling, but to multiply the vertical lines that rise above the glass-walled ground floor right to the roof; even the bronze plates of the great columns that frame the Park Avenue entrance are incised with vertical lines. This sheathing is in direct contrast to the underlying structure, whose powerful frame, when bare, gave more visual weight to the horizontal beams than to the vertical columns. The windows are set in bays almost thirty feet wide between heavy columns, six windows to a bay, and the faces of the building, instead of being an expression of the structure, are frankly and boldly a mask, designed to give pleasure to the eye and to complement, rather than to reveal, the coarser structural form behind it. This is, after all, a logical treatment of the curtain wall, for the very nature of a curtain is to be detached from the structure, not to support it; if anyone should doubt this detachment, the barely visible segmentation of those vertical fins, to allow for the expansion and contraction of the metal they are made of, should settle the matter.

The original renderings of the building showed the floors, which the large windows make completely visible from without, lighter in tone than the metal panels between the banks of windows, and this suggested a contrast between the vertical and the horizontal elements of the structure, but that contrast is, fortunately, almost nonexistent in the finished product. Even the fluorescent lighting fixtures in the ceilings, which might break the upward movement, are only dimly apparent; the glass, thanks to the happy choice of color—presenting a much pleasanter interior view than the usual blue-green glass would—carries through the sombre bronze note that unifies the whole facade. I shall come back to the color in a moment. But first let me note that no small part of the aesthetic impact of this facade derives from its undeviating austerity both in idea and in execution. There are only two departures from bronze

and glass: the use of dull-green stone plaques in the vertical column of blank panels (in lieu of windows) that run all the way up the northeast and southeast corners of the tower—panels that conceal an elaborate complex of windbracing—and the use of unbroken dark bronze sheathing as the facing for the windowless top stories, where the mechanical equipment is housed. The central structure is a shaft and nothing but a shaft, straightforward in concept, solemn in color, sober in execution, a building whose absolute simplicity and consistency has only one rival I can call to mind—John Root's Monadnock Building (1889-91), in Chicago, the last of the great masonry skyscrapers, and one that is equally free from a meretricious use of color or ornament. Until 375 was finished, I had doubts about the use of dark bronze for sheathing; if any considerable area of the city were to blossom forth in this material, the total effect would be a bit depressing. But if one accepts the fact that this is not just another business building but a singular monument, that its aloof, aristocratic qualities are not likely to be often repeated in a city where—to resort to the classic confession of the realty financier—"money does not look ahead more than five years," this choice of dark bronze, meant to deepen in tone but not change, even under our heavy sootfall, is justified. Here is the effect that Raymond Hood aimed at, but did not quite achieve, in his design for the American Radiator Building, built of black brick, which faces Bryant Park. Van der Rohe's tower was designed to flout the fashions and to weather indifferently all changes, including changes in the weather. That choice, like the form itself, was one of the many lessons of the Master. The relief is almost as welcome as a serious and thoughtful face in a news photograph. (Whether the architect's intention will eventually be betrayed by the particular bronze alloy used for the facing is another matter, still, alas, in doubt.)

As one crosses the open plaza that intervenes between Park Avenue and the building, in a few steps one is lifted out of the street so completely that one has almost the illusion of having climbed a long flight of stairs. One faces a vast, continuous wall of plate glass, two stories high, behind the columns that mark the entrance. This glass curtain encloses the ground floor but reveals the travertine-covered inner walls and the elevator shafts, all of which emphasize the transparency of the outer wall. The columns—six of them, square, covered in bronze, and striated by vertical lines a few inches apart—define the entrance with a becoming massiveness and dignity, which also increase the diaphanous air of the outer wall. A canopy above the entrance juts forward, with rectangular severity, to indicate the function of the

opening and to bathe the space below, at night, with its inset lights. The pavement of the plaza, of granite divided into large, unemphatic squares, continues right into the building—no attempt here at a change of texture, at color, at irrelevant decoration; outside and inside are simply the same. The noble scale of the entrance is not just an outside pretense but an inside reality; again the clients showed themselves ready to sacrifice rentable space to achieve an aesthetic effect that does more to set this building apart than the most lavish murals or the most exuberant horticultural display. The serene effect of pure space itself, now vanished from the great railroad stations of New York, and even from the New York Public Library, has once again been recaptured; the design itself wars against the "noisy crowding up of things," which in the days of Rome's decadence sent men into the monastery to find visible peace and order. Even the black bands of the cove lighting in the lobby ceiling, which is of multi-toned gray mosaic, serve to point up, by their sharp contrast, the firm, undeviating integrity—and masculinity—of this design. Such purity and dignity are completely lacking in most contemporary metropolitan architecture, with its endeavor to humanize what is inhuman and to refine what remains so patently vulgar. One must almost go back to Palladio's San Giorgio Maggiore, in Venice, for anything like the same quality of mind and expression. Only at a single point is the purity of this design betrayed, and then by the very rigor of its execution. Since the side streets slope toward Lexington Avenue, the entrances from them are by way of a flight of steps covered with a glass canopy, of transparent glass and perilously elegant, and leading to revolving doors. But a transparent glass roof in New York is a drawing-board dream; even a daily hosing down of the canopy would not guarantee a transparent surface a few hours later—and what looks dirtier than even slightly soiled glass? The lobby terminates in a glass wall, behind which a restaurant is destined to open. Of that spacious approach and that setting one can utter only this sentiment: May the food and the service be worthy of it!

Since this building was designed, first of all, to meet the needs of the corporation, producer of many whiskeys, that built it, one is tempted to appraise the quality of the corporation's own quarters, done directly under the eyes of the architects, and I turn aside from that beguiling path with reluctance, all the more because there is a certain warmth and fantasy in the decoration, of a sort that is usually absent from van der Rohe's almost surgically aseptic designs. However pure this building is, it is not a pure Mies building, and I am not sure that it is the worse for this. Purity, the perfection of a single

aesthetic idea to the neglect of all the other human requirements that enter into a many-dimensioned work of architecture, has gradually developed into a grave weakness in van de Rohe's work—so grave, in fact, that it very nearly undermines his claim to being still a practitioner of architecture. (This vice is usually even more conspicuous in the work of his disciples, who come forth with waxen imitations of the Master's sterile white flowers.) Van der Rohe's famous motto, "Less is more," comes to mean, in the end, "Nothing is even better," so that he reaches in his later buildings the final terminus, where architecture dissolves into constructive sculpture and sculpture itself deliberately disappears into a geometric void. (At this point, it remains for Hans Andersen's little boy to remark that the Emperor wears no clothes.) The virtue of the flawless treatment of the structure of 375 lies precisely in the discipline it imposes upon those who must minister to other than formal aesthetic needs. I think none the worse of the decorators because they have covered one wall of the main Seagram reception office with glass cases in which a variety of liquor bottles form a repeating pattern (this is both an honest symbol and a handsome one), nor, on another floor, would I look down my nose at the abstract mural that turns out to be a chart of production flow in a Seagram plant, though I can well imagine that both these embellishments might cause van der Rohe exquisite pain. But it is the Miesian background that makes these and similar modifications to grateful to the eye—the textured woven-bronze-wire and stainless-steel sheathing of the elevator interiors, the wood panelling of the conference rooms, the excellent lettering and numbering (at once small and bold), and even some of the abstract paintings. After a fast, the simplest meal has the effect of a feast. I have not yet had the opportunity to see how far his chaste example has influenced the people who designed other offices of the building.

It is at ground level, in the public spaces, that van der Rohe's sense of architectural order remains unqualified and supreme, and here again his lesson is a salutary one. The fact that 375 is set back from Park Avenue some ninety feet not merely makes it visible but makes it approachable, and the open plaza in front, plus the arbored green rectangles at the sides, gives the same satisfaction that the building itself does. This plaza is open without being formidable; the absence of any kind of ornament, except the tall bronze flagpole, seventy-five feet high, slightly to the right of the main entrance, and the fountains and rectangular, step-rimmed pools of water on either side, only emphasizes the quality of the space itself. In spite of the towering shaft, the

plaza, thanks partly to the treatment of the ground floor, maintains the human scale, and its emptiness is a part of its serenity, while the impending tower itself disappears from the observer's field of vision. It needs no ornamental fixtures other than those it has in order to increase this human quality; all it needs—and it already has these, both by day and by night—is people capable of enjoying the primal aesthetic pleasures: ordered space, air, the spray of the fountains on one's face, and sunlight or the regal mixture of black and gold that greets one from the lighted building at night. Small plazas like this, if repeated often enough about the city, would accomplish more for recreation than thousands of distant wild acres hardly worth the efforts of a crawling Sunday journey.

This post-Whistler nocturne, by public consensus, is perhaps the highest aesthetic achievement of the building, more than justifying its daytime reserve by its unexpected nighttime splendor. The nocturnal brilliance is enhanced by the amber window glass, which takes the curse of coldness off the fluorescent lights, and it gives one a hint of what such integral illumination, divorced from advertising, might do to enliven the townscape at night.

Unfortunately, the least error in such a simple design hurts like a splinter under one's fingernail, and there are two or three lapses that call for correction. One is a purely aesthetic error: the use of weeping beeches for ornamental greenery at either side of the building—beeches whose writhing forms (already, such is the New York climate, apparently in the agonies of death) seem closer to the spirit of Salvador Dali than to that of Mies van der Rohe. This is fashionable claptrap, which defiles the whole spirit of the design. Another error is a practical one. In creating this plaza, the architects beckoned the passerby to loaf and invite his soul, but they absurdly failed to provide any benches, which they no doubt thought might mar its spatial purity. Though the pools and the ivy-covered rectangular beds are edged by long marble walls, parallel to the side streets, the designers seemingly never imagined that they were thus providing a natural seat for those who would enjoy the play of water and air and green branches; as a result, one can find a seat only by stepping hazardingly along the narrow stone rim of the pool. Grievous as this oversight is, it could be overcome merely by lowering the water in the pools until the next level in the step-rimmed basin emerges. This brings me to the final error, a strangely gross defect in a design as refined and costly as this one: the materials and execution of the pool and its fountains. The pools, composed of large, square granite slabs, are shallow, and it is obvious that some of

the blocks have been defectively laid, for there are smudges of cement filling the cracks; even worse, the pipes that feed the jets are just so much raw plumbing. The fact that the workmanship, here so exposed, is not as impeccable as in the rest of the building, and that the pipes themselves are not concealed, seems almost beyond explanation. Where close contemplation demands perfect craftsmanship, such a failure becomes an aesthetic enormity.

In appraising this design, I have confined myself to its manifest aesthetic qualities. I have not considered the practical and functional demands that must be integrated in any complete work of architecture, nor have I asked at what cost or sacrifice these aesthetic qualities were achieved. Like so much architecture of today, 375 falls into the category of the Pyramid—a building that exhausts every resource of art and engineering to create an imposing visible effect out of all proportion to its human significance. This error is not the architects'; it characterizes our whole civilization, which now sacrifices on the altar of the bureaucratic functions and engineering services what it once gave, in awe and exaltation, only to divinities. What Mies van der Rohe has demonstrated in this building is how to do, with superb aesthetic aplomb and with all but unerring taste, what his colleagues do coarsely and clumsily, in a spirit of tepid compromise with forces to which they have surrendered all too complaisantly in advance.

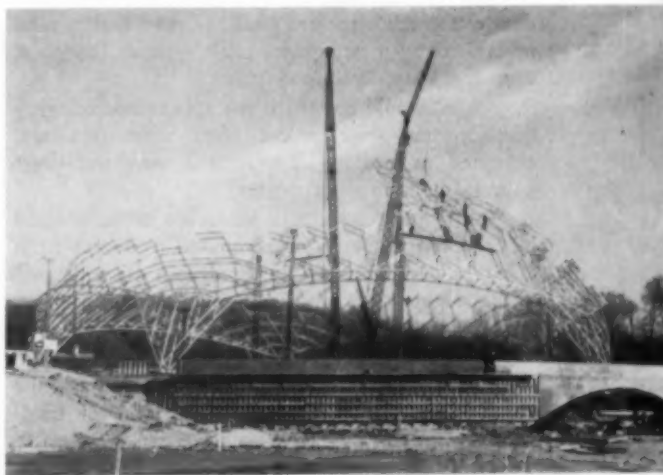
For once, an outstanding human personality got the better of a system that places a premium upon self-effacing conformity and impersonality. And the result is a building that will not be cheapened by imitation—as Lever House was so quickly, if unsubtly, caricatured by the building directly north of it on Fifty-fourth Street. Nevertheless, the thirty-eight story Seagram tower, for all its prodigal disinclination to occupy every square inch of its site, has a few urban drawbacks. Its municipally sanctioned congestion of occupancy, its lack of visual outlook for all but the occupants of outside offices, its wasteful disproportion of elevator shafts to usable floor space, and its inevitable over-mechanization make it not a desirable model for the city of the future. Yet its positive qualities demonstrate what such a city might be, once whole blocks and quarters, themselves limited in height, were characterized by occasional towers that have the same cavalier attitude toward quick returns and high profits from the investment. Taken with all its inherent limitations, this seems to me the best skyscraper New York has seen since Hood's Daily News Building; in classic execution it towers above the doubled height of the Empire State Building, while its nearest later rival, Lever House, more package than Pyramid, looks curiously transitory and ephemeral when one turns from one to the other. Sombre, unsmiling, yet not grim, 375 is a muted masterpiece—but a masterpiece.

New Headquarters of the American Society for Metals

SEEMINGLY UNCONCERNED with the unusual appearance of their work, masons, carpenters and ironworkers rush completion of a new headquarters building for the American Society for Metals. This "geodesic dome" of spiderweb aluminum is being constructed in Geauga County, near Cleveland.

The old concepts of architectural design have been abandoned to take advantage of honeycomb-type construction resulting in the virtual elimination of straight lines and massive supporting columns. The dome will be 250 feet in diameter and 103 feet high. This is perhaps the most extensive attempt yet undertaken to develop the recently discovered principles of the "geodesic dome" construction.

The architects for the project are Kelly & Kress and Associates. The construction is being done by Gillmore-Olson Co., Engineers and Builders.





Left to Right: William L. C. Wheaton, Lewis Mumford, Ian McHarg, J. B. Jackson, David A. Crane, Louis I. Kahn, G. Holmes Perkins, Arthur C. Wurster, Leslie Cheek, Jr. Behind Mr. Cheek is Chadbourne Gilpatrick, Mrs. Eric Larrabee, Mrs. Jane Jacobs, Kevin Lynch, Gordon Stephenson, Gutheim, Grady Clay, Eric Larrabee and Edward Weeks.

The University of Pennsylvania Conference on Urban Design

Grady Clay reports to the Journal on what may turn out to be an epoch-making conference, held at the Westchester Country Club, Rye, New York, early in October. Mr. Clay will be remembered as the author of "Plenty of Action" in the September Journal.

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WHAT WOULD HAPPEN to America's architects if their every new structure were reviewed and panned or praised by a newspaper critic, just as though it were the latest Broadway play?

What would happen if the appearance of every new housing development were scrutinized and criticized as intently as though it were the latest painting of a modern master?

How many architects, landscape architects and other urban designers are prepared to accept from critics "a close, systematic, courageous examination" which might vastly increase the amount of criticism leveled at their own works?

These are not footless questions. There are signs that soon we shall see a sizable upswing in the volume, and perhaps an improvement in the quality, of what can be called urban design criticism.

Actually, a new and more critical era already

has begun. During the past three years a remarkable wave of books has come into print: books essentially critical of, and sometimes probing deeply into the design of our urban areas. These include "The Exploding Metropolis," "The Exurbanites," "The Crack in the Picture Window," and "From the Ground Up." Even the US Department of Agriculture's current yearbook, LAND, contains an unusually critical examination of the forces at work in shaping American cities.

Furthermore, the professional press shows evidence of new vigor, at least some of it devoted to a more critical examination of the urban scene. In the past eighteen months the *Journals of The American Institute of Architects*, the *American Institute of Planners*, and the *American Society of Landscape Architects* all have been jazzed up with either new format, new editorial content, or both. *Landscape*



Holden, Unidentified member of Dean Perkins' staff, Mrs. Catherine Bauer
Mrs. Grady Clay, and I. M. Pei. Also present but not in photo: Frederick

Criticism Reported by Grady Clay

Architecture has departed from tradition with a quarterly editorial.

In October, *Architectural Forum* published a significant article plainly labeled "Criticism" with this revealing introduction:

"In virtually all the arts, a piece of significant new work—whether the first-night performance of a play, the premier of a musical composition, or the showing of a painting—is subjected to critical evaluation. The one exception is architecture. Perhaps because architecture is also a profession, and a business, the art of architecture is seldom criticized. To help remedy this situation here is a *Forum* criticism of an individual effort in the advancing art of architecture."

If I correctly interpret these and other signs to

indicate an impending outburst of design criticism in the US, how many readers of the *AIA Journal* would welcome it?

Welcomed or not, criticism is coming, and I should like to report on a recent and most vigorous manifestation of this New Era: the University of Pennsylvania's Conference on Urban Design Criticism, held at the Westchester Country Club in Rye, N. Y. and sponsored by the Humanities Division of the Rockefeller Foundation.

The conference will be followed by publication of its Proceedings. Whether these will shake the nation's architectural foundations, and shiver their timbers remains to be seen. But the conference deserves wider notice than it has received so far.

But first, a moment of history. Let us go back to January 7, 1954, when a group of architects, planners and teachers pulled themselves away from the Columbia University Bicentennial to discuss "What Can Be Done to Improve Our Architectural Press?" The late Bruno Funaro played host to the group, which concluded in a summary paper that American architectural magazines "should play a stronger role" in "improving the knowledge and skills within the profession," as well as "relating architecture to the society at large."

They praised the *Architectural Review*, lamented the lack in America of a "handsome, literate magazine covering all the plastic arts and reaching a wide public with the central focus on architecture," and concluded that "not much change is to be expected of them (the three major US architectural magazines) unless they are exposed to outside stimuli."

Such lamentations have not, of course, been confined to professionals. Out in the architectural backwoods of Louisville, Ky., a newspaperman began in 1955 writing a monthly "Townscape" column, and struck the same note of complaint: "Townscape has, until now, been a journalistic desert. Published criticisms of local Townscape are rare. For our society is oddly organized. We lavish columns of newsprint daily on criticisms of new movies, TV shows and professional sports, but practically no space is given to a critical review of the production and appearance of our visual surroundings—Townscape."

A great many people must have been thinking along similar lines, for the scene now shifts to New York City where, in the summer of 1958, a Rockefeller Foundation official had noted with some concern that a major urban renewal scheme had been published widely without critical commentary of any kind. A little digging turned up the likelihood that urban design criticism was a fertile field for foundation-sponsored interest.

The foundation then approached the University of Pennsylvania's Institute for Urban Studies with the question: What is to be done to secure more criticism and comment on the art of urban development?

An immediate response came from Prof. William L. C. Wheaton, Institute Director, and Dean G. Holmes Perkins, of the School of Fine Arts, which included this comment:

"The low state of urban design in America today reflects an inadequate understanding of the values of design in the city by the public, officials of government and business and civic leaders, and inadequate standards and knowledge on the part of the professions directly concerned with city building, particularly architects, landscape architects and city planners. In considerable degree, these popular and professional weaknesses arise because of the almost complete absence of critical writing about the design of cities in the American popular and professional press. . . . There must be decisive improvements in both the quality and the quantity of critical writing concerning urban design."

In response, Chadbourne Gilpatric, Associate Director of the Foundation's Humanities Division, gave this warning:

"... [there is a need for] more solid content in criticism of urban development, as well as the easier action of finding more space and readers for urban critics . . . a more philosophical approach to what our cities should provide for civilized life, before going all out to stimulate critical writing. Sound conception should precede lusty propagation."

The task of preparing a "working paper" for the Conference was given to David A. Crane, assistant professor of city planning. From a vast windfall of letters, diatribes, pamphlets and multicolored complaints from across the nation, Crane assembled an impressive documentation of discontent. His own preface proved critical enough to draw some warm responses from magazine editors who felt themselves swept up in his too-sweeping generalizations, to wit:

"What Americans have prodigiously produced is by common consent antiseptic, dull and meaningless at best, and at worst, garish, pretentious and inhuman. The functional artifacts that have been made fail to realize their spiritual and esthetic missions, not to mention their frequent failures to be truly functional. If the values and achievements of civilizations are recorded in their cities, we shall certainly leave damaging symbols of ours."

THE CONFERENCE ITSELF turned out to be an interesting adventure in organizing agreement, where possible, among a varied assortment of people.

From editor Edward Weeks of the *Atlantic Monthly* came the opening attack on urban sprawl: "We must alert our neighbors to the dangers" of continued uglification. From veteran housing controversialist Catherine Bauer Wurster came a plea for "more controversy" as a means of arousing public interest in urban design. From professional city planner and teacher Gordon Stephenson (former editor of the *Town Planning Review*) came the reminder that the public "needs to be reminded about the finer points of a city; we should point out the good things" as well as excoriate the faults.

Mrs. Jane Jacobs' brilliant summary of factors which inhibit urban design criticism was one of the conference highlights. She attempted to dispel the crippling journalistic myth that criticism of buildings is risky by noting the public purposes served by many buildings which should be criticized, and are not. (Lewis Mumford added fuel to her argument by noting that a famous lawsuit in the 1920's helped spread the myth that building-criticism runs the risk of a libel action. Actually, he recalled, a critic merely need avoid the foolish extremity of saying "all the works" of a given architect are bad. And, he warned, "We cannot criticize urban design without criticizing architecture, because buildings exist in an urban context. It's dangerous to keep them apart.")

Also subjected to Mrs. Jacobs' scorn was the widespread "pathetic doctrine of criticism by omission." Thus many current magazine articles are "written in terms of approval—even though words of doubt may creep in." To many magazine editors, "If there's no context of approval, there's 'No story.' . . . This creates a vacuum . . . so we talk about novelty."

Among the most dangerous vested interests which interfere with critics' freedom are "owners and architects who don't want their work criticized; and special patriotisms." The latter feelings dominate local officials or businessmen who tell editors: "Don't rock the boat; we may not get that Federal grant if you criticize the Plan." Unfortunately, too many writers fall for the bait and keep silent.

"All this may be done with the best of motives, but it shuts off thought," continued Mrs. Jacobs.

How far should the reporter-critic go in seeking the reasons behind the finished product? "I think the writer should consider the result, and not so much the process by which the result is achieved. . . . It's difficult to let the work of architecture speak for itself. A reporter-critic shouldn't know too much, all the extenuating reasons (why a building doesn't measure up). . . . It takes a tough-minded person not to be influenced by all this."

Finally, she argued, news publications are the "last place where one can find criticism" because reporters have difficulty playing the double role of reporter and critic. In the former role he avoids personal opinions; in the latter he risks jeopardizing his news sources.

Difficult or not, more magazine and news writers should tackle this two-headed problem, it was agreed by those at the conference. While Mrs. Jacobs supported "more tough-mindedness," and more critics from outside the field of journalism, this was merely one of many proposals for improving both the quantity as well as the quality of design criticism.

Most of the three-day series of prescriptions, suggestions, prejudices and formulae fitted into one of these categories:

1. Criticism of the End Product: Those who favored this approach said "Don't get lost in all the reasons why a building was under-financed, or why a redevelopment project couldn't be more spacious. Look at the End Product. Look, and look again with careful eye. Criticize what you see."

2. Analysis of the Process: Uncover the compromises, dig out the bad decisions which made this end product inevitable. If the lines of a new bridge were ruined in order to cut costs, find out who signed the order (and, the implication followed, flay him in print).

3. Criticism of the Fundamental Forces: Don't be content with the usual Ain't-It-Awful outburst against suburban sprawl. If the basic reason for suburban leapfrogging of subdivisions is speculative holding of land, then go to work on speculation; find out all the alternatives.

4. Improvement in the quality of critical writing. A whole host of professional remedies were suggested here: more critical writing by architects; seminars for journalists; fellowships, a foundation-sponsored clearing-house for analyzing critical writing.

5. Expansion of the volume of critical writing: Many of these suggestions dealt with "getting criticism on the agenda of national conventions," with helping writers to market their criticisms, with organizing exhibits, and improving promotional or propagandistic techniques.

RUNNING THROUGH many of the discussions was the theme of controversy—local fights deliberately provoked to promote public understanding of design issues. Not precious, involved bickering over abstruse details the public cannot or will not understand; but controversy over matters of widest interest.

Catherine Bauer Wurster recalled a classic case: the San Francisco expressway which has been built

directly in front of the noted Ferry Building. If local architects, planners and journalists had begun their fight soon enough—before the final decisions were made—the two-level expressway could have been routed elsewhere. But the fight, when it came, was too late to stop the expressway.

"In city planning itself, we do not debate the fundamentals; there is no machinery for posing alternatives before the plan is published. There should be specific steps in the urban design process for posing alternative choices." Mrs. Wurster warned further against getting involved in "esthetic rows which rock the architects, but which are not understood by the public."

Architect I. M. Pei lamented the fact that many designs are fixed by business agreements "long before the architect or designer gets into the picture. . . . Criticism should be made early, when [such fundamental matters as] project densities are being debated. Later, it's too late and the architect finds it absolutely impossible to do good design. Architects are helpless unless criticism comes early."

Whenever the discussions dwelt overlong on the details for expanding the volume of criticisms, Gilpatric reminded the group of "our common concern—the future of great cities." Wheaton defined the group's common interest as focussing "on the qualitative aspects of physical development of cities." Eric Larrabee's finger went to what he felt was "the heart of the issue: so long as no image exists of the good urban life to compare with the good rural life, we'll continue on the same old path."

Finally, Crane, Wheaton and Perkins pulled together what they considered the main strands of the conference: things that "might be done" (and, as voiced by many participants, should be done):

1. A permanent center of "environmentalism," drawing on, and acting upon all the learned fields presently or potentially related to the design of environment. The center might publish a journal.

2. A council to promote self-education and exchange among a small group of leaders from a number of learned, journalistic and professional fields in respect to the values, philosophies and theory of the various arts relating to urban design. This council would have a permanent person and small staff who would act under the council's policy-making to examine any other useful measures . . . to promote a deeper and more extensive process of criticism and communication about the city-making arts. The council might act as the editorial board of a very small periodical

with the permanent director as editor, and this periodical might become a formal version of [letter-exchanging] among members of the present group and others.

3. A national information-clearinghouse for urban design, with bureaus of the press, speaker exchanges, film and exhibit circulation; and responsibility for disseminating teaching materials on urban design in the public schools.

4. An experimental local museum-public schools program to test the use of graphic communication, urban-design walks and tours and other devices for promoting public awareness and appreciation of the urban environment.

5. A "Counter-Attack Bureau" to develop a civic action movement, and provide information and assistance to local groups that are, or should be, involved in civic design controversies. This institution might also arrange inter-city exchanges of information, advice, and criticism on a national basis. (Note: This recommendation

grew out of the group's repeated reference to ACTION [American Council To Improve Our Neighborhoods], and their dissatisfaction with its results to date.)

6. An urban design agent and permanent staff for the promotion of new works; wider circulation of the best writers and their works. This organization might also administer a book-writing program to extend basic frontiers; continuing fellowships for a new generation of urban design critics; and short-term seminars for professional writers.

All this, of course, could not, and will not, happen overnight. But the Conference immediately produced a flurry of correspondence among its participants, who showed some signs of becoming a kind of private Committee of Correspondence. Whether their influence will approach that of the old Regional Plan Association of the nineteen twenties of course remains to be seen. If, however, we are about to embark on an era of new and enlightened urban design criticism, this conference may have contributed a vital creative spark.

"A Place to Worship"

THE INSTITUTE ANNOUNCES the production of "A Place To Worship," the third in a series of full-color, semi-animated public relations films produced by Henry J. Kaufman & Associates.

The purpose of the filmstrip is to explain to public groups, and primarily the average church building committee, the manner in which the planning of religious architecture should be approached. Emphasis is placed upon the relationship between the building group and the architect. The architect's role and function are described in point-by-point fashion.

The film blends a free-hand drawing technique in limited animation with the use of color photography illustrating both past and present examples of religious architecture.

Designed primarily as a public relations tool

for AIA chapters, this film may be shown by itself at all kinds of adult and youth meetings. It is primarily designed with the church building committee or congregation in mind. As such, it will best serve its purpose if it is employed by the AIA chapter as a prelude to a talk by an architect. When so employed, the film may be used to "warm up" the audience and stimulate questions. Answering them will almost automatically tell the story of the architect's place in society and services to the community.

Cleared and monitored for television use, the film is suitable for local public service programming, either alone or in conjunction with a panel discussion or interview.

The 13½-minute, 16mm sound film, may be purchased from the Institute for \$65.00, or rented for \$5.00.

The Return of the Thumb Tack

H. ROY KELLEY, FAIA

Believing that a little nostalgia now and then is a good thing, and being a confirmed thumb tack user himself, the Editor presents this pointed little gem by Mr. Kelley of Los Angeles.

IN THE MAY TWELFTH ISSUE of *Memo*, the AIA Newsletter, appeared an item which came as a heartening note to those who have been tortured witnesses to the passing of many things once held dear to the noble practice of architecture.

For those who may have missed this choice item of news, we think it bears repeating. The *Memo* stated that Architect Griswold of the Minneapolis Chapter had imported from Switzerland a new gadget which "deposits and retrieves thumb tacks, giving the deposited tack strong holding power and flatness, permitting T-squares, triangles and scales to ride over it on the drafting board; the automatic retrieving feature saves many a broken thumb nail. Cost, \$5.00."

We are certain that this was electrifying news to those volume producers of architecture who presently dominate the architectural scene and number their potential thumb tack users by the hundreds or thousands; and we are certain that orders for these thumb tack retrievers must be pouring in.

On the other hand we suspect that this news must have been a blow to the Scotch Tape industry which has its industrial seat in the same State of Minnesota from which Mr. Griswold hails; and we wonder if he has not been accused of disloyalty to hometown industry and is in Dutch with his Chamber of Commerce.

But for us this news of a mechanical thumb tack retriever has a happy nostalgic note for it brings to mind all but forgotten memories of a human thumb tack retriever of long ago. He was that first grand old architect with whom we served our apprenticeship, to whom we owe so much, and from whom we learned enduring lessons in matters of conservation and the importance of watching overhead. Once every half hour he would pace the aisles of the drafting room, keeping a sharp eye on production and invariably spotting thumb tacks on the floor which he would retrieve and deposit on the board of the closest draftsman with a meaningful look of reproach.

As might be expected, he was soon found to be retrieving an increasingly greater number of thumb tacks on each successive tour of the drafting room, most of them in the vicinity of a draftsman who had made himself unpopular with his co-workers by having been observed to pick up thumb tacks in the vicinity of his board just prior to the approach of the boss. It was not long before a notice appeared on the bulletin board stating that if there was continued evidence of carelessness and wastefulness in the use of thumb tacks, draftsmen would in the future be required to furnish their own.

But we suspect that the thumb tack is so foreign to the present generation of draftsmen that there are countless thousands who have never experienced the thrill of posterior contact with the business end of a thumb tack surreptitiously placed on a drafting stool. It is therefore indeed gratifying to learn that the thumb tack is still extant and has such a worthy champion as Architect Griswold. For we had been under the impression all along that the thumb tack was one of the first things to go when architecture started evolving from a nice noble profession to a big bold business. It therefore awakens further nostalgic memories of those days before professional ethics became printed matter for filing; before advertising came to be termed "public relations"; when publicity came as a reward for recognized accomplishment and not as something to be bought; when promotional brochures placed an architect in the company of advertising doctors and ambulance-chasing lawyers; before professional journals became subsidized by commercial advertisers and before architects' conventions were supported by commercial exhibits of building materials.

So to many who have been saddened and disillusioned by the many changes that have taken place in our profession, the knowledge that the thumb tack is being retrieved comes as a heartening note; because it gives us courage to hope that if the thumb tack can be retrieved so perhaps can a few of the other things lost to our once noble profession.

VICTOR L. WULFE, AIA

The Replanning of



VIEW OF BROADGATE LOOKING NORTHWEST.
COVENTRY EVENING TELEGRAPH.

BECAUSE OF THE GREAT and widespread damage to municipal areas during the last war, new impetus brought about by the unfortunate opportunity has been given to the city replanning problem throughout Europe. Many cities have met this need by simply rebuilding the devastated areas in as rapid a fashion as possible so as to allow a continuation of life in the best way possible compatible with the seemingly more urgent need for rapid planning and construction.

Wherever the demolished buildings were of historic or of great architectural value, extreme care has been taken in all countries to replace those valuable structures with a new facsimile of the original.

By many this may be considered as very reactionary. Of course, there can certainly be a controversy developed over the wisdom of such thinking. Each case would, of course, have to be discussed on its own merit and it is impossible to make any general statement which is of complete good sense.

Where the destroyed structures were not assayed as possessing high historic or architectural value, they have been replaced with contemporary commercial and multiple family housing structures.

There is also a good quantity of contemporary church construction developing in all of the countries which we visited.

Certain cities, however, suffered such widespread devastation that complete new city planning over vast areas of the town has been undertaken and developed to quite interesting degrees. Certainly the cities of Germany and England were most heavily blitzed.

In these countries we found the greatest interest developed in city replanning. Furthermore, Rotterdam in Holland, where the famous Lijnbahn Shopping District has been most delightfully developed, has been studied by many other cities facing the problems of rejuvenation of their business district.

Coventry

The author, a member of the San Diego Chapter, visited Coventry, England, in 1957 and wrote this article, which appeared in the San Diego Daily Transcript and is reprinted here with permission and thanks. Thanks go also to Arthur Ling, FRIBA, City Architect and Planning Officer of Coventry, who sent us the photographs and plans, and to The Coventry Evening Telegraph for the use of some of the photographs.

Berlin has also shown great forward movement along with other German cities.

Through all of our visits and studies, the most interesting story and development, however, was found at Coventry in England.

The City of Plymouth, England, had suffered similar devastation to that showered on Coventry and was therefore faced with the same rebuilding problem but also the same opportunity for a complete replan.

As in all cases, speed was the essence and, of course, there was possibly great pressure brought in both of the cities to minimize the time spent in planning and to divert more time into the actual construction.

The result is that today we find much new construction already in place in both Coventry and Plymouth but with Coventry developing a plan suitable not only for present needs, but also for the future.

The Coventry Plan has, by Grace of God and strong will of a certain few strong men, seen unity of purpose and plan win the day against compromise of well-meaning but unskilled planners such as the merchants, town councilmen, land owners, and property developers. Each one of these groups is important, educated, experienced, and necessary, but each represents varied schools of thoughts which must be grand and as noble as required in order to allow unity of planning and development.

As early as 1939, the Coventry City Council and City Planners were concerned with their condition.

Their city had developed around a medieval street pattern which was far from adequate. Ideas of redevelopment were even then taking form.

The Second World War, however, brought up short any plans for the immediate future as the heavily industrialized Coventry went to war.

It is possible, however, that as this unfortunate city became the target for Luftwaffe blitz night after



UPPER SHOPPING PRECINCT LOOKING EAST. THE COURT IS ON AXIS WITH THE SPIRE OF THE OLD CATHEDRAL RUINS. COVENTRY EVENING TELEGRAPH.

night, new thoughts, new needs, and new possibilities were being envisioned by the City Planners as they viewed the devastation of some 40-odd acres in the center of their town.

With the war over and rebuilding a torn country one of its great and difficult projects, the British Government passed the Town Planning Act of 1947.

The 1947 edict required all City or County Councils to appoint an engineer or architect to plan for and direct the development of that municipality.

Previously, town planning, when it was performed at all, was developed in most haphazard methods and often by incompetent members who had little or no engineering or planning background.

Many times the various requirements of street planning, traffic control, sewerage and sanitation, housing needs, municipal buildings, and other lesser needs were each programmed by separate agencies with no coordination of requirements or plan.

At Coventry some slight but friendly contest appears to have developed between the plan for city redevelopment submitted by the City Architect and that submitted by the City Engineer. Neither could be satisfied with the other's proposal so both were presented to the Council. The plan presented by the City Architect won the day—mainly because of its departure from the "City that was" and its proposal to develop a commercial area with precinctual areas for shoppers and pedestrian traffic free from vehicular traffic.

This new concept was appealing and possible and completely won support of the City Council.

As a result, Donald Gibson, the City Architect, was also appointed to serve as Planning Officer. Today Mr. Gibson has moved farther afield and Arthur Ling carries the same titles in Coventry and is carrying on admirably.

While in Coventry I met Mr. Ling and also had the generous advice, counsel, and accompaniment of Wynn Thomas, Deputy City Planner, in my privileged study of the Coventry development.

Many people in England point to the success and interestingly brilliant concept being developed at Coventry being due to the fact that the City Planner is the City Architect. Such posts in most other cities are held by the City Engineer.

The results in such cases are, of course, quite good.

Yet many believe that the Architect as City Planner supported by the Civil Engineering Staff produces a broader base for far-seeing town planning than when the Architect is subordinated to a chief who is more experienced in civil engineering procedures.

Be that as it may, this is part of the Coventry Story. And because of it, many of the newer towns are developed with the Planner as a separate entity free from, but coordinating with, the Engineer and his important staff and responsibilities.

AS COVENTRY SET ABOUT to develop and finalize her master plan for a new town center to replace her devastated and blighted areas, her staff naturally looked abroad to see what was being developed in the United States. Also great interest was maintained in the outstanding Lijnbahn in Rotterdam. The English Architects and Planners recognized the need for our American suburban shopping center. They did, however, decry such a pattern for Coventry.

To quote Mr. Ling, "Their location away from the city centers represents, in my opinion, a disintegration of the city because the citizens no longer look to the natural heart of their city for their commercial activities."

And so after many starts, disappointments, differences of opinion, and structural delays, we find today a well ordered core of newly planned city development emerging in the heart of Coventry.

This core or heart totals approximately 260 acres known as Central Area Redevelopment. It is roughly circular in plan and is served on its perimeter by a "Ring Road" which receives outer traffic from many directions at nine separate points.



THE CIVIC AND CULTURAL AREA, AND CATHEDRAL UNDER CONSTRUCTION. (AREA IN FOREGROUND NOT SHOWN ON PLAN.)

THE UPPER PRECINCT, SHOWING THE TWO SHOPPING LEVELS.





This Redevelopment Area contains the 40 devastated acres, much slum clearance, certain existing public buildings which cannot economically be replaced and some commercial shops and light industries.

These 260 acres are artfully and practically planned. The commercial shopping area at their center is immediately surrounded by conveniently well spaced and well located multi-level car parking structures.

Only pedestrian traffic is allowed in the heart of this shopping center. Approach roads serve the parking structures from the outer locations but are not allowed to penetrate the pedestrian precincts.

Outside the commercial center is located a larger zone on the west for light industry within the

ring road. Other spaces are allocated for governmental buildings, churches, theaters, hotels, transportation depots and services, recreational facilities, cultural facilities, offices and parks.

Some of these features already exist and are coordinated into the master scheme.

It is interesting to note that although the vehicle-free shopping core was the first plan to win approval of the Town Council, it soon ran into abuse and temporary abandonment.

This was brought about by the merchants themselves who at first study declared that if all vehicular traffic was deprived from passing in front of their shops and stores that retail trade would be cut to the quick.

In fact, several of the large retail stores refused to locate their structures and stores within the newly-planned Redevelopment Area if the pedestrian precinctual idea was enforced. This boycott caused a replan to incorporate vehicular traffic avenues through the heart of the retail shopping district.

To meet this outcome and hazard to pedestrians crossing the trafficways, the City Council reacted to require construction of underground walkways beneath the vehicular avenues.

At this point the merchants rebelled because of the additional cost of the walkways and especially because they saw their lifeblood stream of shoppers being driven underground. Slowly the original plan regenerated, and while in Coventry, we were privileged to see the scheme taking physical shape and succeeding.

We visited the various areas and shops to obtain the "feel" as well as colored photos of the development. The architectural designs are freely contemporary.

What is even more important, the building designs are coordinated, which provides a pleasing and mannerly composition of the various commercial structures. Even though a foreigner, I sense a feeling of pride and delight in what is being accomplished at Coventry.

VIEW OF MODEL
LOOKING GENERALLY
SOUTH, WITH UPPER
SHOPPING PRECINCT
IN THE CENTER.



Architectural Tradition

THEODORE IRVING COE, FAIA

The views of Ted Coe, who had his eighty-fifth birthday a few months ago and who has just rounded out twenty-three years as Technical Secretary of the Institute, are always expressed with wit and pungency.

WITH RESPECT TO Classical and Traditional architecture, we are reminded of the old lady on a train who saw a signboard on which appeared the letters W and R.

On asking the conductor what the letters stood for, he replied, "Whistle and Ring."

"Oh," she said, "I see how W stands for 'Wring' but I don't see how R stands for 'Whistle!'"

The origins of so-called Classical or Traditional architecture remain evident as the modifications of early examples serve to preserve these traditional concepts, but so-called modern, functional architecture should not be denied the appellation "Traditional."

Neither comrade Frank Lloyd Wright, nor other architects less susceptible to newsworthy attention, should be accorded the accolade as originator of this controversial development.

It has a very definite, though not so ancient a tradition as the Classical, but one none the less easily traceable.

In the simple packing case, as a unit or module, and the multiplicity of such units piled tier on tier, with suitable set-backs to insure the stability of the mass and provide against the reality of an over-balanced or top-heavy design will be found the traditional prototype of modern design.

It appears to be a matter of regret to some of the exponents of this modern trend that there exists a hankering for traditional windows.

Something should be done in this situation for architectural advance toward the mechanized brighter day should not be retarded by human habits and customs merely because they have a head start of development and fixation.

Let us not be soft or namby-pamby in bestow-

ing upon reluctant humans the realities of truly modern, functional architecture.

We must have no compunctions as to how a building will look—so long as it responds to concepts of functionalism.

The concrete "eyebrow" as a means of warding off the sun's rays is a makeshift of doubtful value, and causes no pain to the maker of Venetian blinds.

If tradition is to be placed on trial, nothing that has been should be permitted to escape indictment, and a plea of guilty.

It must be regretfully admitted, to our shame as architects, that the victory over exterior windows is the contribution of the engineer, through the bestowal of air conditioning and fluorescent lighting.

Fire-fighters called to service a fire within a windowless building face a problem—but functionalism must be vindicated, notwithstanding the fact that a considerable portion of a backward public continue to crave openings in outer walls through which glimpses may be had of earth and sky, and the passing throng.

The elimination of exterior doors, however, has proven a more complex problem, and, so far, like the poor, they are still with us.

This vestige of tradition, together with that of the traditional means of vertical transportation, the elevator, is, however, susceptible of meeting the requirements of modern functionalism.

The substitution of a more recently developed mechanization—the pneumatic tube—with entrance and exit orifices at the ground level, and delivery and exciting stops at the several floors—is the answer.

While there are, no doubt, other vestiges of traditionalism which might have attention, a too rapid transition should be avoided to permit consideration of a just appraisal of any moss-backed demand for what has been, as against a too long step forward toward complete functionalism and mechanization.

May it suffice for the nonce to realize that the Classical background and the Modern expression have tradition as a common heritage.

Whether, like the old lady's, our architectural pies are marked "T.M." for "tis mince," or "T.M." for "t'ain't mince," what perhaps is needed in architectural design is more of the Modern in the Classical tradition, and more of the Classical in the Modern.

And so, I leave the subject for your thoughtful consideration, fearing you will find yourselves in the position of the displaced person who, struggling to master our language, finished reading the dictionary without finding much continuity in the story.

Do You Know Your Documents?

This is the first of a series of articles dealing with many phases of the Standard Documents, written by William Stanley Parker, FAIA, distinguished past Secretary of the Institute and Consultant on Contract Procedure.

SOME ARCHITECTS PREFER to make complete typewritten copies of their General Conditions rather than to use the printed Standard General Conditions showing some provisions crossed out in whole or in part with whatever supplementary General Conditions need to be added. It, of course, does look like a more orderly document to some but do they realize what they have thrown away in the process?

The AIA Standard Documents have been in existence in substantially their present form since 1915, when the Second Edition was issued. It is true that since then five new editions have been issued. The Fourth Edition, in 1925, rearranged the order of the Articles and made a considerable number of amendments in wording. Since 1925, however, for more than thirty years, only eleven of the forty-four articles have been substantially amended, and only thirteen others have had minor changes of wording that in no way changed their intent.

This means that they have been subjected to court interpretations and any such interpretations are on record and the meaning of the provisions has been established. In a completely new typewritten contract no such condition exists and every paragraph must be studied to determine its intent. The printed standard General Conditions have become well known and only new provisions or amendments of the printed provisions need to be studied. To throw away this accumulated value is wasteful of time and undesirable. It affects the interests not only of the General Contractor but of all the subcontractors and suppliers and of any lawyers that may be involved.

It is also true that many changes in the standard provisions that are suggested by owners or their lawyers are probably unwise. Thirty years of experience has proved the standard provisions to be fair to both parties and clear in their intent. An Architect or his counsel accepts a considerable responsibility if he proposes important changes in the standard provisions. It is of course true, however, that where the counsel for a public body insists on a change, the Architect may be forced to follow his advice, but many town counsels and lawyers for private clients have accepted the standard provisions as sound and permitted their use. An architect once sent the Institute a long list of changes demanded by the lawyer for a public utility project. A few months later he wrote the Institute that the lawyer for another public

For Instance: *The Value of the Standard Forms*

utility in the same state had approved the Standard General Conditions without change.

When using the Standard General Conditions it should always be remembered that at least a few Supplementary General Conditions are needed to make them wholly adequate. There are several that may need amendment to fit the particular requirements of the project involved, but there are a few in which an amendment or amplification is always needed. The most important of these is Article 27, Contractor's Liability Insurance.

The article states that the insurance shall be written for "not less than any limits of liability specified as part of this contract." If no supplementary provision is included stating the minimum limits required, the insurance might be written for the statutory limits of \$5,000 per person and \$10,000 per accident. This would, of course, save money for the contractor theoretically. However, most contractors have policies already in effect with reasonable limits of perhaps \$300,000, for any one person and \$600,000, for any one accident. In very large projects the desirable limits may be very much higher.

It is desirable, therefore, to determine, with insurance advice, and to specify in a Supplementary General Condition the minimum limits that are required. It is, of course, true that these stated limits do not limit the contractor's responsibility for the results of an accident but merely the extent to which he is required to insure himself against loss.

If a contract is to be bonded, a Supplementary General Condition should be drafted with relation to Article 30, Guaranty Bonds which merely relates to the possibility and the procedure if a bond is required.

Article 42, Use of Premises, and Article 44, Cleaning Up, very often need to be amplified to cover the special conditions of a project. The General Conditions do not pretend to cover all such items but only those that are agreed to be "General" for all jobs. The Handbook lists many additional items, some of which probably will be needed and would be appropriately covered as Supplementary General Conditions.

It is because some Supplementary General Conditions are always needed that they are now mentioned in Article 1 as a recognized element in the Contract Documents.

Profit-Sharing in Architecture

CORWIN BOOTH, AIA

The following article, written by the Vice President of the Northern California Chapter, first appeared in the *Bulletin* of that Chapter.

RUMOR SEEMS TO HAVE GOTTEN AROUND that our firm, Falk & Booth, has an employee profit-sharing plan which is a bit out of the ordinary, and which is highly satisfactory to the employees as well as to us. Several architects in the Chapter have asked me about it, and about various other personnel policies Mark Falk and I have established. Since the editors of the *Bulletin* seem to feel that others may also be interested, they have asked me to tell you about that phase of our office set-up.

First of all, let me give you a few vital statistics on the firm, so that you can see whether or not the same systems might apply, with variations, to your own firm. We have 35 employees, including architects, structural and civil engineers, draftsmen, and five secretaries, in addition to the two partners.

Almost one-half of our employees have been with us over six years. More than one-third have been with us since the inception of the firm. In other words, we have very little turnover. We like to feel that our personnel policies have a lot to do with the fact that people stay with us.

About the profit-sharing plan, or bonus. When we first started our firm, we decided that we wanted a fair share of whatever profits we made to go to the people who worked for us, and whose work made that profit possible. Right then and there we established a percentage of the total net profit which would go every year to the partners, and a percentage which would go every year to the employees. Once established, these percentages have never changed. If they were changed from year to year, depending on the profits for a given year, the tax men might very understandably look askance at the whole plan as nothing more than a tax dodge.

The employees' percentage of the profits is divided at the end of each year in accordance with a man's total earnings for the year. This amount is increased by 10% for each year of service, so that a man who has been with us for ten years will get a bonus almost twice as large as someone who has only worked a year. One very important note: this bonus

applies to *everyone*, including the secretaries (two of whom have been with us since the firm started), right down to the print boy. Even those who have worked less than a year are included. By the way, we do not pay lower starting salaries to compensate for the bonus; our starting salaries are right in line with those of other offices. And while we're on the subject of salaries, I might mention that they are reviewed twice a year for those making less than \$600 per month, and once a year for those making more. At that time, raises are given where indicated.

In order to give a more exact picture of how our bonus plan works, we have prepared the chart shown below. In this chart, we have taken three mythical employees, each of whom earns a monthly salary of \$500. We have assumed that the total bonus to be distributed at year's end is \$5,000. This amount is then divided by the weighted totals of the salaries paid to those employees. The weighted total is the yearly salary plus 10% for each year worked. The figure that results is called the Unit Factor ($\$5,000 \div \$21,500 = .2325581$) which is used to compute the individual's bonus.

Perhaps the most interesting sidelight on this profit-sharing system is the effect it has on the drafting room. The men all feel a personal sense of responsibility, to the point where they are even more than normally concerned if they are not busy. They heckle Mark and me to get them the information they need to go ahead on a job; they push each other along; they worry if work is in the office too long. In a very real sense, they are part owners of the business, and like any owners, they are concerned with having the work done right and done as quickly as is practical without cutting corners.

Another interesting aspect is that the employees have become an almost entirely "self-policing" body. Our chief draftsman doesn't have to see that everyone is working to capacity—the other draftsmen do that for him. If we have inadvertently hired someone who isn't pulling his own weight, they needle him constantly to see that he does. Or, if he just can't

Employee	Date Employed	Months Employed During Yr.	Monthly Salary	Total Salary During Year	Full Yrs. of Empl.	10% of Col. 4 x Col. 5	Weighted Total (Col. 4 + 6)	Bonus (Col. 7 x Unit Factor)
	1	2	3	4	5	6	7	8
John Doe	8/1/48	12	\$500.00	\$6,000.00	9	\$5,400.00	\$11,400.00	\$2,651.16
James Roe	8/1/56	12	500.00	6,000.00	1	600.00	6,600.00	1,534.88
Jane Doe	3/1/57	7	500.00	3,500.00	0	—	3,500.00	813.96
				\$15,500.00		\$6,000.00	\$21,500.00	\$5,000.00

keep up, he is made to feel so miserable that he will quit of his own accord. We seldom have the task of firing anyone!

Oddly enough, the bonus plan doesn't seem to be a determining factor in making a person decide whether or not to come to work for us in the first place. But to anyone who has been with us a few years, that bonus is a tremendous incentive.

I recently asked some of our employees what they thought about the system. One remarked that whereas at first he would rather have had it all in a higher hourly rate, now he feels entirely different. "Now I look forward to a nice big check at the end of the year, whereas if I'd had it by the hour, I would have dribbled it all away." Another said, "There's only one disadvantage that I can see. You sort of hate to ask for a raise!"

What if we have a bad year? Well, the partners get less, and the employees get less—but the percentage they get is just the same. Our employees know that if we make any money, they do, too. One memorable year, the firm actually lost money, but we gave a small token bonus just by way of consolation.

All new employees are handed a copy of our personnel policies, which are set down in a three-page mimeographed form. In addition to our profit-sharing plan, the following are briefs of our standard policies:

Work Week: 40 hours per week.

Overtime: Time-and-a-half regular rate.

Vacation: One working day for each month worked, up to end of first year. 10 working days per

year thereafter. 15 working days vacation after 10 years employment.

Holidays: Seven with pay (New Years, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas).

Termination: Two weeks notice, except in cases of "misconduct, inefficiency, or unsatisfactory service."

Sick Leave: One-half day for each month of employment, after a continuous employment period of six months. The time is cumulative from year to year.

Major Medical Insurance: Without cost to him, each employee and his dependents are covered by medical, hospital and surgical insurance in accordance with the terms of our contract with New York Life Insurance Co.

By having consistent policies established, and having each employee familiar with them (and knowing that no deviation will be allowed unless approved in writing by one of the partners) we all know where we stand. I am amazed when I hear architects say they don't have any personnel policies—that they just decide what to do with each case as it arises. That sort of informal arrangement may be all right when you have one or two employees, but after that, it seems to us that it's just poor business.

Practically all of our policies, like our profit-sharing plan, have been in effect for the full nine years of the firm's existence. By this time, we know that they are effective, and that they get results in terms of better work and higher office morale. We like our systems. Our employees like them too!

MALCOLM B. WELLS

Don't Forget the Toilet Rooms!



This amusing first-hand account of an experience we have all gone through in one way or another was sent to us by Sherley W. Morgan, FAIA, Secretary-Director of the State Board of Architects of—perhaps we'd better say an un-named state! (Incidentally, Mr. Wells passed his examination with very high marks.)

A DELIGHTFUL EXPERIENCE awaits the applicant preparing for the written examinations for registration to practice architecture in our state—no phone calls, no typewriters, just four days of pure uninterrupted terror.

I guess the rumors are the worst part of it. You'll hear that there's a quota on architects:

that most people take the exams five times,
that only state university grads pass,
that only one or two pass each year,
that the judges favor certain styles,
and that even if you pass, the subsequent
exam is so rough you might as well quit.

Don't believe a word of it; here's what really happens:

About a month before exam time, you'll get a letter which gives the title of the forthcoming design problem. You know, something like "A Mercantile Bank." After you do a lot of research on the mercantile side of banking you realize that as far as architecture is concerned, a mercantile bank is just a plain old ordinary bank.

These exams are held at the University twice a year, June and December. The times were selected for convenience—not yours, the university's. The fact that your vacation or your Christmas holiday is ruined helps to discipline the architectural mind.

When you arrive on campus, just watch for worried-looking young men carrying suitcases, and follow them. Chances are they'll lead you to a splendid old example of neo-Gothic Spanish architecture—your home away from home for the next four days.

The reason those young men carry suitcases is that they've just stolen everything not nailed down in the offices where they work, on the chance that it'll come in handy at the test.

I remember buying a new T-square, pastels, text books, templates, erasers; all kinds of stuff. The erasers were a good investment.

Some guys (you can call them guys until they're registered, then you call them something else), some guys carry alarm clocks, soap, aspirin, ash trays, pep pills, sharpeners, and I don't know what all. You can carry whatever you like, but don't forget:

- the usual drafting equipment
- a roll of cheap tracing paper
- a ruled pad
- coloring materials—paint, pencils, or pastels
- slide rule
- stapler or tape
- coffee, food and cigarettes, and a light bulb.

The drafting room used for the exams is filled with 1898-type tables. On exam morning, people arrive as early as 8:15 to stake out claims, for if you arrive late you may have to work in a dark corner on a dirty rutted old board. And in December, half the room is cold, so you must proportion your distance from the windows to your favorite temperature, too.

Normally, once you select a good spot, you can be reasonably sure of keeping it for the next four days. If you're the big, muscular type this is a certainty.

At 9:00 A.M. each day, a line forms to pick up testpapers. One look at the faces as they go by

reading the problem gives you a sort of nausea. Silly, isn't it? How hard can a test be? Buildings are all the same anyway; a Miesy-y box, some roofscape, and three little rectangles of red, yellow, and blue, artily placed.

Just to be sure not to forget the toilet rooms. No matter what the problem is, the judges seem to think you're a lousy designer unless you include them. So don't fight it.

I won't say that the first day, "Design," went quickly, but the shadows on the wall outside had moved about ten feet each time I stopped to light a cigarette. And I'd just got rolling when I looked up to see that it was dark outside.

You can't leave the room, you know—except to wash your hands. And they have a man there to see that you don't cheat. Imagine an architect clouding his scheme with someone else's ideas! Besides, you're probably sitting in the midst of a group of engineers-with-delusions-of-architecture anyway.

At 8:00 P.M., the happy announcement, "one hour to go" is made. That's when you can hear activity—things get knocked over, papers rustle, erasers burn, and pencils tap. You'd think everybody had designed concrete buildings to hear those pencils tap. By 8:50 people are cussing, leads are snapping—by this time you should have a scheme pretty well thought out and ready to go on paper.

Then suddenly it's all over.

You turn in your paper, and at that instant, in a blinding flash of inspiration you see the perfect design scheme for the problem . . . save it, you may need it at the next exam.

At 9:30, you'll find the suitcase gang at the tavern deep in serious architect talk. The longer they stay there the seriouiser the talk gets. Pretty shoon everybody's convinced that he's passed the tesht, so the day ends on a happy note.

"Site Planning," your big treat for the second day merely involves drawing some boxes and wiggly lines on a plot plan. The History session in the morning is simple too; just memorize the plans, elevations, and dimensions of everything that's been built and they can't trip you up.

Sample question: "How much does the Parthenon weigh? Discuss."

And so it goes . . . Building Construction, Professional Practice, Building Equipment, and Structural. All straightforward stuff as long as you remember to convert foot-pounds to inch-pounds. Or is it inch-pounds to foot-pounds?

Before you know it, you're following a group of worried young men with suitcases away from the splendid old neo-Gothic Spanish building for the last (?) time.

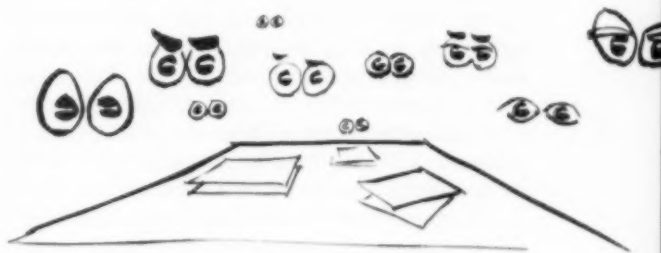
They tell me that as soon as you leave, a platoon of eager professors rushes in, marks your papers, and mails out the results. Due to inefficiencies in our postal system, however, the results don't reach you until 7 or 8 tense weeks have elapsed. These results are itemized according to the 7 sections of the exam so that you can see just how you rate in each subject.

If you're not satisfied with your marks, you may review them with the Secretary-Director of the Board. This may lead to a change in your marks (in reviewing your papers, other mistakes are sure to be found).

Passing the written exam entitles you to appear for an oral exam given by the State Board of Architects.

The purpose of this interview is to give you a new sympathy for the poor oafs you see on TV quiz shows who freeze before the cameras.

Just picture waiting outside the board room knowing that your future hinges on the events of the next few minutes. Suddenly you're led to a seat at the foot of a long table where you're introduced to a lot of men who look just like people. But don't be fooled—they hate you.



Having been warned beforehand to study the State Lien Laws, you're ready for them, though. They'll ask you simple questions like, "What is the purpose of filing contracts with the County Clerk"? Do as I did (don't say it's to protect the owner from having to pay twice)—try to impress them:

"A lien law is a purpose on the part of a mechanic to withhold subsequent damages summoned by a court order."

Then they'll remember you.

And that's how you take the exams and become an architect. It costs you \$173.18 by the time you've paid the exam fee, bought materials, travelled to the University and the State Capital, and paid for registration and seal, but for the right to put that little nine-letter word in back of your name, it's a bargain.

Just don't forget those toilet rooms.

Do You Really Want a Partner?

ERNEST W. FAIR

Mr. Fair is not an architect, but is a professional writer living in Boulder, Colorado, who has a family interest in the profession of architecture. His advice is as sound as though he had been through the mill himself.

THERE ARE TIMES when I really wish I had a partner. Then we could get away more often and——."

The number of architects who have made such a statement to their wives or friends at one time or another without a doubt runs into the many thousands. The desire is also many times expressed when the architect looks at an overflowing desk of work and envisions how much easier it would be for two men to tackle the task than one.

Partnership in business has definite advantages and it also has disadvantages. There is no general rule existent which declares that either outbalances the other. It is a strictly local and individual affair. But there are a number of established considerations that should be weighed in balance by the individual architect when the time arrives to make a decision on whether or not he really wants a partner. Here are the more important of these factors:

40

Leisure time possibilities—The doctor whose business provides him with little if any leisure time is surely impairing his future usefulness. The human body, no matter how strong or well constituted, simply must have relaxation from its regular routines. To many architects, working in a partnership offers a solution to this problem without loss of business due to absence. However, when one goes into a partnership with this as the sole motivating reason it is never enough in itself. As a contributing factor it is well worth weighing; as the sole determining reason it is seldom worthwhile. In the

latter case the losses of a financial nature involved may be so great that it would have been better for one to simply close the office from time to time in order to obtain such leisure.

Continuation of the business during times when one may be ill or for other reasons unable to take care of one's clients is another frequently mentioned reason for going into partnership. Where two men can work closely together it is undoubtedly a good one. The individual can never know when an illness of long duration may strike him and ultimately result in the virtual disappearance of his business before he is ready to open offices again. Such a thing will not happen where a partnership exists.

Financial responsibility of any proposed partner is a most essential consideration. No matter his skills, how good a personality he may have, how well liked he may be—without financial responsibility he can definitely drag downward. One must always remember that in both law and general business, no partnership is any stronger than the weakest member of that partnership; not the healthiest financially. It is also well to remember that legally in a partnership each is responsible for the business liabilities of the other with respect to the partnership.

Funds for expansion, securing new facilities, etc., are often a reason for acquiring a partner. Years and years of actual experience have shown that where two partners contribute equal financial resources to any enterprise the chances of success are much

greater than where there is an unequal contribution moneywise. We should also consider the possibility that it may cost much less in the long run to borrow the needed money than to acquire it by taking on a partner to share in the profits.

Handling more clients is too often a sole determining factor in creation of business partnerships. This, once again, may be good or bad. When weighing practical considerations involved it is a good idea to examine them solely from one's own individual standpoint, i.e., comparison of present earnings against those in such a partnership insofar as they affect oneself. Too often only the total earnings of the partners are considered; not of each individual under the partnership. Where it is logical that there will be an increase for each, however, one should still weigh in balance the value of this particular increase against the obvious disadvantages of being in a partnership as compared with the present status.

Sharing of profits will be basic in any partnership. One should also plan on what will happen when it will be necessary to share losses and what these could possibly be. Viewing the business under possible periods of adversity is also wise procedure; comparing what may be expected as revenue under individual operation with half of what may be expected under a partnership arrangement.

Acquiring added skills is always an excellent reason for securing a partner. If he is the right type of individual and the arrangement passes other tests this may be of great value.

Temperament must always be considered. Judgment should never be based on casual observation but only after a careful private investigation on one's part. Men engaged in partnership who are opposites temperamentally can look forward to nothing but trouble and chaos and an eventual disruption of their arrangement.

Present facilities must be examined with closest attention. Are they sufficient for two men to earn satisfactory incomes or must an additional investment be made? If that is required will the resulting benefits justify the added costs and expanded overhead?

Temporary expedients too often form the basis of partnership agreements; they almost invariably result in a loss in more ways than one over an extended period of time. It's always good procedure, when considering partnership with anyone in any venture, to stop and ask this question: "Will it be a good deal a year from now?"

Social circles in which one moves and those in which the partner moves should also be considered. It's much better from a business standpoint to select a man who moves in entirely different social, profes-

sional and business circles than oneself. This is true not only from the standpoint of building the business but from another as well—two men who see each other day in and day out every day of the month can get mighty tired of one another if this continues into social, fraternal, club and religious activities as well.

Equal partner, senior or junior? This can be of greatest importance in the future. The best procedure is always on an equal partnership basis. However if a "junior" arrangement is made some provision for equal partnership in the future should also be discussed at the start.

Age and experience also deserves consideration. When there is too much imbalance between two men troubles are apt to develop in the immediate future. Perhaps in the personality being considered this may make little difference. Nevertheless, it should be given close examination and study.

Why does he want the partnership? One may well know one's own reasons for the proposed venture but it will also pay to find out why it appears to be a good idea to the other fellow. If his reasons are based on something which cannot materialize then trouble for the partnership is a certainty in the future.

Decision-sharing becomes a must in successful operation of any kind of a partnership. If one has been on one's own for a long time it may not come easy to work with someone else on procedures in the future. How readily one is willing to give up one's own autonomy must be judged when one starts consideration of any type of partnership.

Who will be the boss when it comes to making basic decisions or when there is disagreement between the partners? Such procedures must be clarified at the beginning. More important, each man must make up his own mind that he will adhere to the procedure when and if the time comes.

Sharing of liabilities should never be overlooked. One must always keep in mind that one will share the other fellow's liabilities as well as his assets. This pertains to much more than money, as mentioned above, and includes personality, mannerisms, skills and abilities as well.

Tax advantages or disadvantages of a partnership as compared with one's present situation should always be weighed in balance. Talk these over with a lawyer. It is a complicated procedure needing the judgment of an experienced tax lawyer only.

Is the "volume" there now? Will it be there continuously? It's a good idea to keep in mind that one will need a little more than twice what one has today just to be as well off as one is today!



Walbridge & Bell

The Theme for the 1959 Convention at New Orleans

"Design"

JOHN NOBLE RICHARDS, FAIA, *President*

DESIGN," THE THEME for the 1959 Convention of The American Institute of Architects, is most appropriate at this particular time.

The theme of the AIA Centennial Celebration in 1957 was "A New Century Beckons." This attracted to our nation's capital a number of distinguished persons eminently qualified to discuss the forces which shape man's environment. These discussions were devoted to the future rather than the past, and to the influences of society upon architecture rather than to the practice of architecture itself. The new technologies, changing economies, expanding populations, advances in travel and communications; the impact of these and other forces on our environment were discussed.

This discussion led to thinking on the part of the architectural profession as to what directions we must take if we are to mould rather than simply to endure the events of the future. It also led to deeds—as witness the program of the 1958 Convention in Cleveland. The theme and program there were devoted to shoring up technical competence, to pointing out where services must be expanded, and to ethical and professional considerations to which architectural practice must be geared if it is to meet the environmental challenge of the predictable future.

Some attention to architectural design is appropriate, indeed essential at this particular point. The need for efficiency, the need for speed, the need for economy, the need for proper function are continually advanced as being all-important if society is to be able to shelter itself in the coming awesome expansion of its economy and population.

But the architectural profession must resist the premise that meeting these needs is all that is necessary. We must at all costs make sure that human

values are raised to their proper importance. Human needs for beauty, comfort and artistic expression cannot be subordinated to the functional and economical. Construction without these esthetic values is not architecture. The drawing together of the optimum of all these, beauty and function; comfort and efficiency; artistic expression and economy, into architecture is architectural design—the architect's unique contribution and monopoly, and his first obligation to his public.

In fulfilling this obligation it is time for the architectural profession to bring order to—to articulate—the creative process as it relates to architecture. All considerations, sociological, psychological, philosophical, physiological, anthropological should be explored and discussed as pertinent and essential to the design process.

Creativity in other areas which are a part of or related to architectural design, would also have to be a part of the program if a complete picture is to evolve. Such a discussion should include design ingredients and resources such as color, light, temperature, humidity and texture; as well as those of form, mass, space, materials, finishes.

Herein lies the value of this year's Convention theme. We must produce design of excellence if the architectural profession is to survive and design society's future environment in a pleasant and livable way.

The important benefit should be that the design process and the need for and value of design is so carefully and lucidly expressed, that the public, our potential clients, will listen, understand, be impressed and support the value of architectural beauty.

This is the premise on which the New Orleans Convention is being planned.



From the Executive Director's Desk:

IF MEMBERS OF THE OCTAGON staff find in me an indifferent proofreader, their perception is acute. Perhaps indifferent is too mild a term. I loathe proof-reading. However, I should gird up for the task and avoid such a patent error as that which appeared in the final sentences of my article in the November number. My subject is to be the architect and politics, not policies.

Policy is an old story. Our daily concern is the architect and policy. In passing and somewhat irrelevantly, I cannot help but observe that policies are elusive. There is much talk about them. They are adopted only after profound debate. Their fine points are argued in detail. When they become law they find themselves manipulated to accommodate the exigencies of the moment.

We issue bound policy statements. (At first they were called Policy Books, a title which had to be altered with dispatch, lest the Octagon become suspect in the eyes of the District vice squad.) But this is a paper on politics—a more intriguing subject.

Well to begin with, what is politics? Should architects engage in it? And, if so, to what extent? And by politics I do not mean the pleasant pastime of maneuvering and conniving to bring about the election of society officers, nor do I mean the politics in large offices, that mean pitiful politics that makes for happiness, nor the politics which enter into one's daily life. I mean good robust American politics, without which this country would have long since ceased to exist as a power. I mean the politics practiced by our two major parties.

American politics is unique. It bears little resemblance to that of other countries. We like to think of ourselves as heirs to the British tradition but a cursory analysis reveals the error of this concept. We are in this country dedicated to a two-party system, the two parties being almost indistinguish-

able in composition, in policy (forgive the word) and in objective. This of itself makes for solidarity and for the continuation of the American way of life. It is perhaps the most significant contribution we have made to political science. It is the reason too that an American sometimes finds European politics difficult to follow, for the natural tendency to compare and liken is misleading.

That the British have been successful is due in no small part to the singular and exalted position enjoyed by their sovereign. The sovereign is a living symbol lacking in our country. The Presidency would never be accepted by us as a symbol. In fact we have none—save perhaps the elephant and the donkey, those two beasts which attract a passionate devotion unknown outside of the United States. What with our differences of opinion, geographic and otherwise, we do enjoy a unanimity of purpose and of achievement not excelled by any other democracy, except those of relatively small countries who have not yet been faced with the economic, population, and industrial problems with which we have to contend. France in her constant state of political turmoil surely looks our way with unadmitted envy.

Politics, as practiced in this country, undergoes a constant and salutary change. And I doubt if our present day politicians would be happy or even safe in the rough and tumble exercise of their profession of a hundred years or more ago. While we have grown less robust, we have gained an intellectual stature and in a mutual understanding. Times have even changed within our lifetime for I can recall the day when an architect of my home town who, thinking himself adept in the art of politics, paid the price of the amateur and spent a year in the state penitentiary. The charge was fraud against the taxpayer. He was the victim of the wily professional in a day when politics had not achieved respectability.

In achieving respectability, American politics still retains ruthlessness. It is a game not to be entered lightly for it is played for keeps. And it would appear to be the better part of valor for an architect to become expert in an academic way rather than to become a political participant, unless he is prepared to dedicate his life to the profession of politics.

A professional politician of experience and attainment, for whom I have considerable respect, describes politics as the most fascinating career in which modern man can engage. It is the business of people. The politician deals with ideas and their constant and ever-changing effect on people. A skillful politician can, if he is so minded, move mankind a bit of the way along to happier existence. But I was also warned by my mentor that somewhere along the line every professional politician meets a heart-break.

This is understandable, for anyone whose major concentration is people runs the occupational hazard of incurring envy and disagreement. And yet there are successful politicians who apparently have discovered an efficacious remedy that renders them seemingly unsusceptible to the attacks which carry off many a good man. Sir Winston Churchill's heart has yet to be broken. Probably it was fractured time and again in the course of his strenuous career, but he does seem to have found the secret of self healing. There are those who can muster the courage and immobility to face the world while hiding a broken heart.

My friend, the ex-Governor, is not the only professional politician whom I have heard make this observation, for I was abured years ago by a professional politician, when I entertained vague thoughts of getting into politics, that I must be prepared to work harder than I had ever imagined I could, that I must develop courage of a different kind than I had ever mustered, and that I must be prepared to have my heart broken.

Now, in order to ingratiate themselves with potential clientele, architects have been known to play at politics—sometimes getting themselves involved a little more deeply than the discretion called for. I recall another architect, now gone from this world, whom I knew as a young man. He depended, for his quite successful architectural career, upon the beneficence of the bosses of the machine of his county. All went well, he was an honest architect, his work was well studied and soundly constructed. But there came a day when the opposition took over so that he found himself in due course on the witness stand explaining embarrassingly to a steel-eyed jury his devotion to the principles of his party, and

that because of that devotion he had been pleased to contribute a substantial percentage of his fees to the perpetuation of those principles. He failed to evoke the plaudits of the jury. No punitive action was taken against him by either the State or the Institute, but his admission, coupled with the defeat of his party and aggravated by the almost exclusive devotion of his talents to a single patron, terminated his active career as an architect. He left his native city to become lost in the welter of a distant metropolis. In due course he died forgotten by both his party and his profession. He too, though he imagined himself to be a politician, learned the hard way that a successful career in any profession is strictly for the professionals.

On the whole, having observed and worked with professional politicians, many of the highest competence, this leads me to think that politics is perhaps the most difficult and exacting profession. The rewards are transient and the penalty for failure is oblivion or worse. It calls for keen preparation, natural talent, the stamina of an ox, the hide of an elephant and a mighty sense of humor. It is conceivable that an individual of unusual capabilities can combine the two professions, politics and architecture, but I would suggest that it is even more difficult to effect that combination successfully than to combine medicine and architecture, and far more difficult than to combine law and architecture.

We have examples of architects who have risen to positions of considerable prominence in other countries. The president of one of the Latin American countries was an architect. There are Argentine senators who are architects. The head of one of the principal political parties of Chile is a young architect. But somehow or other the management in active professional politics in those countries does not seem to be attended by the same hazards as it is in this country. It would appear wise to leave politics to the politicians and let it remain for architects to increase and enhance their architectural ability, to expand their fields of interest and exploitation.

Architects like other successful patriotic citizens can well have an appreciation of politics, hold opinions, exercise their right of franchise and know politicians, especially those who represent them or man the agencies with which they do business. But if they wish to enter politics they must recognize that the pursuit of that profession requires talents and preparation commensurate with those necessary for architectural success.

Edmund D. Purvis

"The question of registration has been before the Company's board several times, but as yet no action either way has resulted.

"Registration must be considered as advertising, and as appropriations for advertising are made in January, and definite action by the [Company] board must be deferred until that time.

"As this Company enjoys a practical monopoly in the revolving door business, and makes but one product, they do not suffer from competition to any very great extent. Consequently, if an architect uses revolving doors, they get the business; and our statement of the advantages of one revolving door over any other, or an approval of their claims of merit will bring them no new business, and registration therefore would narrow down to advertising as the business does not suffer from unfair competition. The comparison of expense with the amount of publicity obtained does not make registration an attractive proposition at a price of about \$250.

"It was stated that they have won all patent suits against competitors, that there are only two other firms making revolving doors, and that these doors complied with neither the Fire Underwriter's requirements nor the regulations of safety commissions."

THEODORE W. DOMINICK, AIA

Staff Consultant to the Committee on Building Products Registration

The AIA Building Products Registry Service

SO WROTE INTERVIEWER J. F. WILLIAMS of AIA's Building Data League, Inc. forty-three years ago in his report on the Van Kannel Revolving Door Co. of New York, October 20, 1915. Full credit for exhuming this yellowed report from an obscure file in the basement of the AIA Administration Building must go to "Ted" Coe, FAIA, the Institute's Technical Secretary since 1935, twenty years after the Building Data League opened, whirled and closed its own revolving doors. This is no criticism here of the League's effort to start an AIA information service, but there appear to be several basic concepts, brought to light in the Williams report, which may have caused the League to give up the idea of a service. At least, they are worth reviewing in the light of the present circumstances.

First of all, the AIA Building Data League obviously planned to charge a substantial sum (\$250) for some form of product endorsement. This sum would be more like \$1000 today—a healthy fee for saying what Van Kannel had probably said al-

ready of its own door and those of its two competitors. Secondly, if the League attempted to write a treatise on the advantages of one door over the others, it could become hopelessly involved, even by 1915 standards, when there were fewer products to handle. Thirdly, the League planned to "approve" manufacturers' claims of merit. Just how this was to be accomplished, one doesn't find in the report, but one must give the Building Data Leaguers the benefit of any doubt by assuming they had a plan. Were today's membership to vote sufficient funds to search through and micro-film the quantities of old files, one might run across the answers to this and other lost plans.

Today, after nearly seven years of intensive study by the Board itself, by very active Committees of the Chicago Chapter which initiated the idea, by the Joint Committee AIA-PC, by the Committee on Research and, finally, by the Committee on Building Products Registration (the author of the Service concept in its present form), the Board has

voted to activate the Service "at the earliest possible moment." The Board's action is gratifying, indeed, to all who have contributed so much to develop the service concept to the point where it can serve the practical needs of the profession and of the manufacturers of building products in a realistic manner.

Wherein lie the differences between the AIA Building Products Registry Service and the original idea of the Building Data League? Basically, these differences are simple. There will be *no* AIA "endorsement" or "seal of approval" of any building product. Building products and equipment are readily described physically, and by performance characteristics supplied by the manufacturer which are based on his own tests and those test specifications and reviews by such well-known organizations as the Underwriters Laboratories, American Society of Testing Materials, American Standards Association, Commercial Standards of the US Department of Commerce, the Federal Housing Administration's Materials Releases, and many others. These characteristics best describing each product will be supplied to the AIA by the manufacturer. The AIA will publish an annual Building Products Register, grouping and listing products of like nature and use, manufactured by various companies, by product types. Listings will be in tabular form for ease of comparison by the user—generally, the architect. Every useful characteristic of a product can thus be brought to the architect's attention in a simple manner for pre-selection of those products meeting the demand of his specification requirement. Because the tabulation will reference the AIA Standard Filing System for Manufacturers' Literature, Sweet's Architectural File and other appropriate catalog services where applicable, the Register will direct the user to specific product literature without the need of wading through literature on products not filling his need. Valuable research time will be saved in the process.

Besides the annual Register, the user will have access to General Reports which will describe product usage specifically, without mention of brand name. The purpose of these reports again is simple—to educate the architect on proper product use and to point up the precautions to be taken in proper use. Many manufacturers have told us that this education is vital to the life of good products. The architect is too often overlooking the manufacturer's knowledge of product limitations and creating his own headaches in later years by ignoring the precautions available to him.

A third part of the Service for the architect will be an extension of the old clinic service idea by providing a Field Inspection and Reporting Service.

Qualified AIA Technicians will inspect and report on a failure, if requested by the architect of the project in which the failure has occurred. The "findings" will be available to the manufacturer as well as the architect, and will be added to the appropriate General Report.

Many members realize that the Institute is not in a position to provide this service without charge, any more than it can provide Contract Documents and other AIA material. An annual subscription at \$25 will provide the subscriber with the full service. Individual privileged communications on specific details of product failures are included in the total serve to subscribers, but only on proper application for such.

The Building Products Registry Service will help the manufacturer. His products will be presented in a form which the architect can use with ease. The Register also will direct the architect to the appropriate manufacturer's literature and catalog.

Likewise, by supplying information on product characteristics on a Data Reporting Form developed and supplied by the AIA, the manufacturer may choose to include this form and information therein as a part of his product literature. An idea of this type is being studied by the Producers' Council, in its Spec-Data Sheet program. It is the Institute's responsibility to its members to help the manufacturer improve his product literature. His service subscription will include such assistance with the end purpose that the architect-user will not only find the Register of immediate value, but will be able to use readily product literature which is keyed into the Register.

A third phase of the manufacturer's service includes a clearing house of ideas for new products and new uses of existing products. These ideas will be gathered from architect-subscribers—the type who say "why don't they make this sort of thing" to do thus and so? There is enough experience nationally among Institute members to make this a valuable challenge to the manufacturer's ingenuity.

To understand what evidence the Board considered at its November meeting to direct that the Service be activated, a brief explanation should be made here. The Committee on Building Products Registration carefully considered many aspects of financing, but could never overlook the fact that to be effective the Service should supply something to both architect and producer. What these mean to each has been briefly outlined above. What these mean in cost is quite another matter. The Register costs were carefully obtained—not just the printing and distribution, but the research, communications

with manufacturers, technical analysis of product characteristics, and the compilations of the mass of material to make up each page of the Register.

The first issue of the Register will contain about 200 pages of product listings. There will be 18 product categories, following closely those in Sweet's. These will include all categories from No. 2 Structural Systems to No. 23 Furnishings and Equipment, except for the four categories of Lath-Plaster-Wall-board, Paint-Finishes-Protective Coatings, Skylights-Ventilators-Louvers, and Store Fronts. These, with the balance of Sweet's categories, will be included in the second issue of the Register in 1960.

The costs to the producer have been determined at \$35 per product listing. A product listing will be contained in a single line. A manufacturer with ten different products will require ten separate lines on which to list them. At this rate the cost of the

Service to producer and architect is almost equally borne.

When this issue went to press, producers had pledged almost 1000 product listings. Many of these were "token" in that the exact number was not specified and could not be determined without individual study. Thus the manufacturers have pledged \$35,000 to launch their share of the Service. Not to be outdone, the corporate members have pledged 1440 subscriptions for a total to match the producers—\$35,000.

The Service is on its way. Plans call for the first issue of the Register to be on your desks in late spring of this year. To all of you who have helped make this possible by pledging subscriptions, hearty thanks. To those of you who have worked so untiringly, what more can be said than that you have made a distinct contribution to the profession.

Thomas S. Holden

THOMAS S. HOLDEN, Vice Chairman and former President of the F. W. Dodge Corporation, and an Honorary Member of the Institute, died suddenly on November third. Mr. Holden, who was 72, was an expert on business conditions, particularly conditions in the building industry.

Born in Dallas, Mr. Holden started his career as an instructor in mathematics at the University of Texas and at MIT. For a few years he practiced architecture in Boston and in Akron, Ohio. After

a short term as an economics investigator for the US Department of Labor, he became chief statistician for the F. W. Dodge Corporation, and rose to become President of the corporation in 1941.

A close friend of architects and architecture all his life, he became a familiar figure at AIA conventions, and many members were his guests at his annual cocktail parties. His presence and his counsel will be greatly missed by the architectural profession.

Abram Garfield, FAIA

ABRAM GARFIELD, FAIA, dean of Cleveland architects, died on October 16th at the age of 86. Although his eyesight was failing, he had been fairly active in his firm, Garfield, Harris, Schafer, Flynn and Williams, until shortly before his death. Long active in Institute affairs, Mr. Garfield was President of the Cleveland Chapter in 1910 and again in 1925, served as Regional Director from 1919 to 1922, and was Vice President of the Institute from 1923 to 1925. He was equally active in community and national affairs, having served twelve years on the Cleveland City Plan Commission, and was co-founder of the Cleveland Regional Association. He also led the Cleveland Chapter in founding a school of architecture and headed it for fifteen years until it became a part of Western Reserve University.

In 1909 President Theodore Roosevelt appointed him to the National Council of Fine Arts, and in 1925 President Coolidge named him to the National Fine Arts Commission. His practice included hospitals, college buildings, commercial buildings and many fine residences for wealthy clients, mostly in and near Cleveland, but also including Pittsburgh, Palm Beach, Thomaston, Ga., and Ketchikan, Alaska.

Mr. Garfield was the fourth son of President Garfield and was born in Washington, where his father had been active in politics before he was elected President. Young Abram consequently lived in the White House for a few months at the age of eight before his father was assassinated.



Library Notes

RECENTLY I HAD OCCASION to attend two professional meetings. On October 28 and 29 the Committee of Planning Librarians met in New York in connection with the annual meeting of the American Institute of Planners. The Committee, comprised mainly of librarians from planning agencies and schools of planning, was recently organized and promises to be active in a field closely allied to architecture. Others attending from Washington were Mrs. Elsa Freeman, librarian, Housing and Home Finance Agency; and Dr. Karl Baer, librarian, National Association of Home Builders.

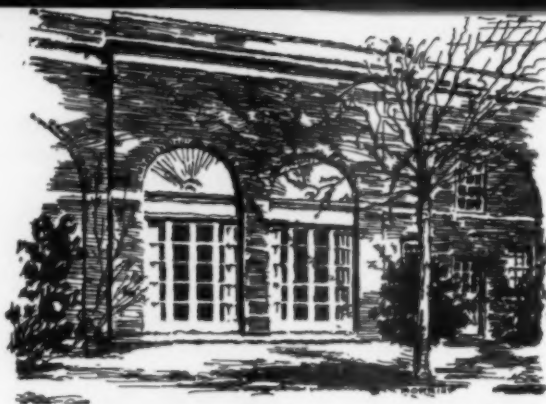
The first session, a business meeting of the Committee, considered various projects, among which were a standard subject heading list on planning, and an indexing and abstracting service of planning periodicals. The former was recognized as an essential basis for the latter and funds are being sought to prepare it. The American Institute of Planners having expressed interest in the indexing service, the Committee voted to ask AIP to appoint a joint committee with three members from each group to study the matter.

The afternoon being free I went to the New York Public Library where I saw friends and did research for a project on architectural registration board reports. In the evening the Committee met informally for dinner.

Wednesday morning I attended a panel meeting of the AIP on "Dimensions of Planning." The panelists considered such matters as development timing, financial programming and political action. A spirited discussion followed. During the noon hour we saw a new film, "Plan for Prosperity," sponsored by the Detroit Edison Electric Institute with the cooperation of AIP and ASPO. With a story thread showing the value of planning, the film introduced shots of modern architecture such as homes, factories and shopping centers. The host chapter for the next AIP conference at Seattle offered a slide preview of its attractions, suitably enticing.

In the afternoon the Committee of Planning Librarians sponsored a session on "Maps for Planning, Planning for Maps" with William Woods, Map Division, Library of Congress. It was most gratifying to the Committee that its first effort at programming a technical session was well attended, drawing as many planners as librarians.

Then to New Orleans for the annual meeting of the National Trust for Historic Preservation. Mr.



Finley, Chairman of the Board, noted in his annual report that the Trust was continuing to grow. At a session devoted to the new highway program, Christopher Tunnard gave an inspiring talk entitled "Can Planning Stop the Destruction to Our Landscape?" J. C. Harrington reported on the archaeological salvage program which is attempting to save some of the historical artifacts being destroyed in the relentless push for ever more highways. At luncheon Mrs. Randolph W. Burgess related her findings on *La Demeure Historique* and other preservation activities in France.

A special privilege in the afternoon was a personally conducted tour of the Vieux Carré by Samuel Wilson, Jr., FAIA, which he kindly gave me along with some others. His deep knowledge of the area was apparent all the way, and the walk served as an introduction I will long remember. After dinner the Trust members had an opportunity to visit some of the patios in the quarter which revealed the attractiveness to be found behind the sometimes rather nondescript exteriors.

At the Saturday session two speakers presented the need for community action in preservation. William Murtagh related his experiences in developing a program in Bethlehem, Pa., while Mrs. William S. Allen spoke on the College Hill project in Providence, R. I. At a second session, E. P. Alexander spoke on the need for historical interpreters; Charles Van Ravenswaay discussed "White Elephants" and what to do with them; and under the provocative title of "Beef before Baubles" Walter Muir Whitehill gave a heartily applauded talk pleading for the maintenance of Faneuil Hall as a market rather than its "improvement" with curio shops.

At luncheon at the Gallier City Hall we heard Mayor Morrison say it was to be kept as a cultural center. In the afternoon we visited four of the fine homes in the Garden District. At odd moments I walked around the new civic center, although I was disappointed the new public library was not yet open. All in all it was a pleasant first visit to one of America's cities with a rich architectural heritage.

G. E. PETTENGILL

BOOK REVIEWS

The Making of Dutch Towns

A Study of Urban Development from the Xth to the XVIIth Centuries, By Gerald L. Burk, introduction by Sir William Holford (174 pp. London: 1956: Clever-Hulme Press, Ltd. \$5.50) is here reviewed by Charles S. Ascher, Associate Director of the Institute of Public Administration and a member of the faculty of Brooklyn College. Reprinted with permission from the JOURNAL of the American Institute of Planners.

By Charles S. Ascher

This book is a delight. It transcends its origin as a dissertation for the degree of "M.Sc. in Estate Management" at the University of London, in part, at least, because it is "affectionately done," in Sir William Holford's characterization. Mr. Burke has traversed an extensive Dutch literature of architecture and social history, not readily accessible in English; he has also traversed Dutch towns with a loving camera. And he has searched out old maps and plans, with which this beautifully printed book is lavishly illustrated.

Dutch towns were planned. They had to be planned, because the land for them had to be made and the drainage, ditching, pumping, pile-driving were beyond the capacity of one builder. But they were not planned at imperial or ducal behest as surroundings for court or castle. In the centuries reviewed by Mr. Burke, they were public works of communities of burghers, who sought charters from reigning dukes to enlarge their settlement into trading towns. As Mr. Burke points out, the fens, bogs and deltas of the low countries were outside the main spheres of interest of emperors and popes. The scale of the towns and of their houses was burgherly. Moreover, when all the land is costly made land, the price of princely magnificence is high.

Mr. Burke establishes categories of

seaports, dike (string) towns, bastides, water towns, high ground towns (i.e. not subject to flooding at high tide). The reader who does not yet know Holland will follow his descriptions with as much pleasure as the experienced visitor.

This reviewer noted with particular interest that the medieval and renaissance community builders recognized the need to assure the perpetuation of their community plan. "Building ordinances and contracts of sale [read: restrictive covenants] provided for standard plot frontages, . . . a maximum number of stories . . . party walls so that terrace building could be secured . . . and . . . stipulated that only certain kinds of bricks . . . could be used on facades." (p. 130.) Read about the use-zoning in Amsterdam in 1650, the Building Ordinance of 1565 that was effective into the XIXth Century. (p. 152.)

Perhaps the Dutch town builders "were not brilliantly distinguished in architectural achievement," but "the whole appearance of the town and its small, compact and intimate scale, reflected an innate respect for the dignity of the family and community." (pp. 161-2.)

Eric Mendelsohn

By Arnold Whittick, (220 pp. 7 3/4" x 10 1/4". New York: 1958: F. W. Dodge Corporation. \$9.85) is a revised edition of the standard work on the great German architect who came to this country only to die prematurely. It is here reviewed by Ralph T. Coe, a member of the staff of the National Gallery of Art in Washington.

By Ralph T. Coe

Eighteen years ago the English architectural critic Arnold Whittick published his study of the German-born modern architect, Eric Mendelsohn. Whittick's book has remained the most accessible source of biographical information on Mendel-

sohn, despite the fact that it has had a rather limited circulation in this country. For the most part it has been available in this country at libraries only. Despite Mendelsohn's legendary stature as a leading modern architect, relatively few of us in this country have had sufficient opportunity to gain a reading knowledge of his individual development and become familiar with the history of his career.

It is appropriate that following Mendelsohn's death in San Francisco in 1953, a revised and enlarged new edition of Whittick's "Eric Mendelsohn" has been published. This new edition gives a more complete survey of the architect's work than was possible in 1940, when Mendelsohn was still in mid-career with his American contribution yet to ensue. Three new chapters have been added to describe the series of synagogues and other buildings (notably the Maimonides Health Center, 1946-50) which were built in America after Mendelsohn resumed practice in 1946. American architects will find the account of Mendelsohn's building activities in the United States useful as a guide, in as much as the synagogues in St. Louis, Cleveland, St. Paul, and Grand Rapids can be visited and studied at first hand.

Each of the architect's major buildings is described carefully, and the seventy-four plates form an invaluable illustrated record of the different phases of his work. Text, illustrations, plans, and cross-sections are also included, though no construction details are presented. The author knew Mendelsohn personally and had the cooperation of his widow in assembling biographical data. He quotes extensively from Mendelsohn's writings and lectures on "the new architecture" and recounts what office assistants had to say about Mendelsohn's methods of work. It is instructive that he always conceived of a building in three-dimensional form, starting with a sketch in per-

spective—rather than working from plan to elevation—much as a stage designer first visualizes a theatrical effect.

There can be no doubt of the accuracy of Mr. Whittick's text. However, it is to be regretted that greater powers of interpretation were not brought to bear upon the wealth of material presented. A number of questions, outside the realm of personal biography, but important to Mendelsohn's status as a twentieth century architect, are either avoided or inadequately discussed. The influence of the Expressionist movement is cited as a factor in Mendelsohn's development, but we are given no details as to how this influence operated. It is strange that no mention is made of the "expressionist" architects Max Berg and Hans Poelzig, whose work before the first World War stands behind Mendelsohn's own first efforts. Is it not possible to see in Mendelsohn's Berliner Tageblatt Building extensions of 1923 an echo of Poelzig's Breslau office building of 1911? It is difficult to believe that Mendelsohn would have designed the glass staircase housing of his Stuttgart Schocken Department Store (1926) as he did without a previous acquaintance with Gropius' rounded glass projections in the Cologne Exhibition model factory of 1914.

To indicate these derivations is not to accuse Mendelsohn of copying, for he never did. But they aid us to place the architect in the perspective of architectural history. I cite them as examples of historical method which Mr. Whittick could have used to advantage in evaluating his subject's accomplishment. It is equally disturbing that in his discussion of Mendelsohn's building during the 20's and 30's, no mention is made of the "International Style"; the term does not occur in the index. Does Mr. Whittick consider the term artificial? Does he consider Mendelsohn's work outside this category? To this reviewer the Herpich Fur Store of 1924 is within the canon of the style. The Columbus House office building (1931) is in its way as typical of the International Style as any structure of the period could be. What, then, is its place within the development of

the style? The answers to questions such as these will evidently depend upon the results of research yet to be undertaken.

On the basis of Mr. Whittick's text, it is possible to deduce Mendelsohn's philosophy of architecture. He sought to confer something of poetry and romance to the sparse and modern techniques of building pioneered by Behrens and Gropius before the first World War. He wished to make of their experiments a whole architecture—a standard for the times: hence his interest in specific building types such as the department store during the 1920's and later in America the synagogue, a structure bound to "unite mechanical power and spiritual imagination." At times the romantic exuberance of Mendelsohn's own nature dominated, as in the famous Einstein Observatory at Potsdam (1921). In his most celebrated design before the Hitler *putsch*, the Schocken Department Store at Chemnitz (1928), Mendelsohn successfully fused romantic conception and rationalist execution: the result, the bold concave sweep of the Chemnitz store facade, the banded windows of which have not "dated" in the thirty years since they were built.

It would be a mistake to present Mendelsohn as one of the pioneers of twentieth century architecture. This Mr. Whittick did not do, although he has not asserted the architect's true position in his times through specific analysis of style and comparison with the buildings of other contemporary architects. By the time Mendelsohn began to build (1920), the elements he would use in design were already established, if little exploited. A talent was needed on the scene to consolidate these gains into architectural permanence. In giving greater currency to modern architectural forms by working not only in Germany, but in England and Palestine during the 1930's, and in America between 1946 and 1953, Eric Mendelsohn performed an invaluable service to the cause of contemporary architecture. Mr. Whittick's book on Eric Mendelsohn is an attractive and useful, if tentative survey of that contribution which is worthy today of commemorative attention.

Timber Design and Construction Handbook. Prepared by Timber Engineering Company. 642 pp. 6" x 9". New York: 1956: F. W. Dodge Corporation. \$12.75.

This comprehensive timber design reference book was written by twenty-five specialists, offering all the essential information needed for the design and construction of wood structures. It covers the fundamental characteristics of wood; it analyzes design procedures, details, fabrication and erection; and it provides simplified design tabular data and engineering specifications.

The Design and Construction of Engineering Foundation. By F. D. C. Henry. 568 pp. 5¾" x 8¾". New York: 1956: McGraw-Hill Book Company, Inc. \$9.00

Professor Henry, of the University of Leeds, has based his book on his assimilation of the research of the past decade, plus his experience as a civil engineer and as a teacher of engineering.

The book covers geology; soil mechanics; mining subsidence; individual, continuous and raft footings; piers, piles, retaining walls, bulkheads, culverts, cofferdams, caissons, underpinning, and moving structures. In the appendix are one hundred design problems. It is, therefore, a complete handbook for both the student and the practicing engineer and architect.

Applied Strength of Materials. By Alfred Jensen. 360 pp. 6" x 9". New York: 1957: Mc-Graw-Hill Book Co., Inc. \$5.75

This one-semester textbook has the unique feature that the developments of all design formulas have been accomplished without the use of calculus. The author, who is Professor of Architectural Engineering at the University of Washington, Seattle, places strong emphasis on the actual design of structural parts, members and connections, and he includes a chapter on the methods of manufacture and the properties of the various engineering materials.

THE EDITOR'S ASIDES

YOU HAVE UNDOUBTEDLY MISSED "Through the Martini Glass" by this time—in fact, many people say they turn to it first of all. Well, I'm sorry to have to report that it may be some time before Al is with us again. I've just come from lunch with him and his wife, and his mind is really made up. He is busy on some major opus—a book, I believe—and just busy in general. After all, he is a practicing architect and not a full-time writer, so he has found he just can't keep up the production of a monthly column. We hope he will be back with us before long on an occasional basis. (Maybe letters from his public would help.)

JOE CERUTI, of the Cleveland Chapter, has sent me a page from the *Cleveland Plain Dealer* for October fifth which describes the great plans for urban renewal in the city which I deplored in this column in a recent issue. There seem to be seven different projects planned—one or two are under way. This is good news to this ex-Cleveland, indeed. The part of town that I was referring to particularly is known as the "Hough Area" and the paper says of it: "Plans for the Hough Area include slum clearance, new private and public housing and rehabilitation of old homes in rundown condition but still basically sound." I only hope this includes the re-routing of traffic in some locations and the closing of many unnecessary streets, and the relocation of some business districts. A thorough job can seldom be done within the existing street pattern and within the framework of the existing zoning ordinances in most cities. I also hope that the housing will not be as bare and institutional-looking as such housing frequently is. At least, there are plenty of trees in much of the area—but spare that bulldozer. Furthermore, I am happy that my Cleveland friends are still speaking to me! I hope they will again.

AN ANOTHER PAGE of this issue is notice of the death of Abram Gar-

field, one of the last of Cleveland's old-timers and a wonderful man. His was the first office I worked in after college—except my father's, where I had fiddled around the drafting room for years. My father, who was a slightly older contemporary of Mr. Garfield's, used to tell a story about him when he was a little boy. True or not, I see no reason why it shouldn't be nor why it shouldn't be told here:

It was after President Garfield's assassination and after the ceremonies in Washington his body was brought back home to Cleveland for burial. As was the custom in those days, a huge catafalque had been erected in the Public Square, and the whole city turned out to pay its respects to its martyred son. Little Abram, aged eight, got separated from his family and shuffled into the crowd. He found himself standing next to a local urchin who looked over his fine clothes and said, "Where are you from?" Abram told him he was from Washington, and the boys got into a bit of inter-city bragging. What with the Capitol and the White House and all, the Cleveland boy was getting the worst of the match, when suddenly he shot out, "Well, you ain't got any *catafalque* in Washington," as though that finally settled everything. Abram drew himself up to his full dignity and said proudly, "Huh, that's *my father's* catafalque!"

THE CONSTRUCTION INDUSTRY is not spending enough time and money on research. Dr. Christopher E. Barthel, Jr., Assistant Director of the Armour Research Foundation of the Illinois Institute of Technology, pointed this out at the October meeting of the Pennsylvania Society of Architects. The industry is spending less than one-half of one per cent of its total income for research and development, which is very slim compared with other industries. "Up to the present," he said, "architects have been able to apply knowledge gathered by others, but they will find it more difficult to assimilate informa-

tion gathered by others unless they make a constant effort to research their own problems." Despite progress in heating and air conditioning (the heat pump and applications of solar energy), and in adhesives and sealants, there are vast fields to be explored.

As an example of the research facilities being built by other industries, we illustrate on page 23 the erection of a 250-foot geodesic dome as a part of the research center and school being built in Geauga County, near Cleveland, by the American Society for Metals. In addition to extensive research facilities, the school will accommodate metallurgists from all over the world, who will come for one- or two-week refresher courses in the latest developments in metallurgy. Possibly the construction industry, because of its very nature, can never achieve anything like this. Maybe it doesn't need to, for if it will "research its own problems" and make its needs known, the basic research will be done by the basic producers, who after all, hope to sell the ultimate products of their research. But there is much that the building industry, and particularly the architectural profession, can do to give direction to this research.

TO END on a philosophic note: I noted this down from something I was reading the other day—and neglected to note the source. May the author forgive me, if he ever sees these lines: "The freedom of the artist to be after strange gods. By their strangeness he will know them, but the new one will bear an astonishing resemblance to the old one, for tradition, whether he knows it or not, lives on within him."

So with the architect.

More Glass means More Air Conditioning

Prepared by the Joint Cooperative Committee of the AIA and the American Society of Heating and Air Conditioning Engineers, as a service to the architectural and engineering professions.

THERE HAVE BEEN MANY large and attractive commercial office buildings erected during the past decade. Some of more recent design have large expanses of glass in which either the clear or the heat absorbing type have been employed. Glass ratios in a few of the new modern buildings are in excess of 75% (glass equals 75% of the wall area).

It is the purpose of this study to show the effect of glass areas on the air conditioning room sensible cooling load and as a consequence the change in first cost, operating cost and overall owning and operating costs, of air conditioning.

The air conditioning sensible cooling load in a typical peripheral commercial office consists of four major components, i.e.:

1. Solar radiation
2. Transmission
3. Lights and other electrical equipment
4. People

Solar radiation and transmission are external sources of heat. Their effect on the cooling load varies approximately in direct ratio to the glass area. Solar or direct radiation is the largest single heat gain to the office area, consequently many methods for reducing the sun's radiant heat have been utilized. Specifically, various types of external shading devices, heat absorbing glass sections, internal shading devices and combinations of these have been used to minimize this excessive heat gain.

Figures No. 1 and No. 2 show a peripheral area floor plan in a com-

mercial office building with a bay dimension of 20' by 17' by 9'6" floor height. A typical peripheral office in this bay may be 10' by 13'. This is the module size used in this study for comparison of the relative air-conditioning loads which result from changing glass areas. In both modules the glass section is assumed to be 1/4" thickness clear plate with inside venetian blinds, the internal lighting load at 3 watts per sq. ft. and the people density at 100 sq. ft. per person.

The glass height in figure No. 1 is 5'. The stool height for this module is 2'6" and the glass ratio is 24.5%.

The glass height in figure No. 2 is 7' and the stool height is 1'. The glass ratio in this module is 74%.

Chart No. 1 shows a breakdown of the air-conditioning sensible cooling load at design and also a summation

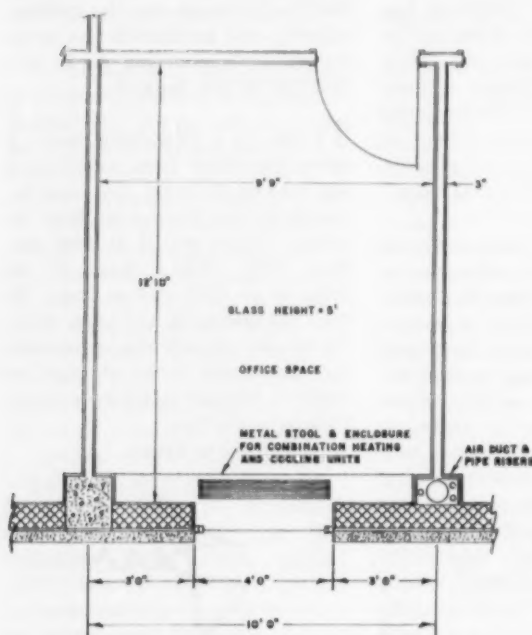


FIG. 1. OFFICE SPACE WITH 24.5 GLASS RATIO(%)

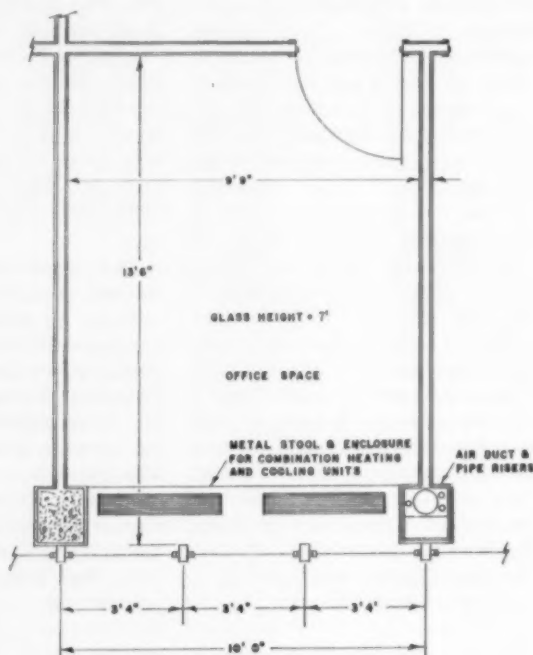


FIG. 2. OFFICE SPACE WITH 74.0 GLASS RATIO(%)

of the components of this load. These values are for the modules shown in figure No. 1 and No. 2 when oriented for a west exposure and at 4:00 p.m. of a design summer day in latitude 40° north. Although the loads shown on chart No. 1 are for a west exposure, it should be recognized that they are fairly indicative of the cooling requirement for such a module of any orientation having direct solar heat gains. *One exposure only is being used here to give comparative figures rather than attempt to analyze buildings as a whole because of their varying sizes and shapes.* It should be noted from this chart that the solar radiant heat and conducted or transmitted heat through the glass increases appreciably with increase in glass area. It is approximately 60% of the total sensible heat gain to the module shown in figure No. 1 and approximately 80% of the total sensible heat gain to the module shown in figure No. 2.

While chart No. 1 is specifically shown for a west exposure the same general relationship will exist for a south exposure but at a different time of year. In fact the difficulties on a south exposure which result from large glass areas are sometimes of major proportions because the solar intensity on a south exposure is at its maximum during the winter months. Sun exposed rooms on the south side will require cooling practically the entire year when glass ratios are in the magnitude of that shown on figure No. 2. Modules with a south exposure and shaded, as for example by adjacent buildings, will require heating during the winter season. Such a widely varying load on one exposure cannot be handled satisfactorily with the conventional "zoning by exposure."

The percent glass ratio for the two modules is the abscissa on chart No. 1. Intersection of the vertical glass ratio lines with the sloping lines showing the major components of the load will indicate the magnitude of each for the various office modules. These data have been tabulated in Table No. 1.

An analysis of the data shown in table No. 1 will indicate a ratio of approximately 300% between figures

TABLE 1

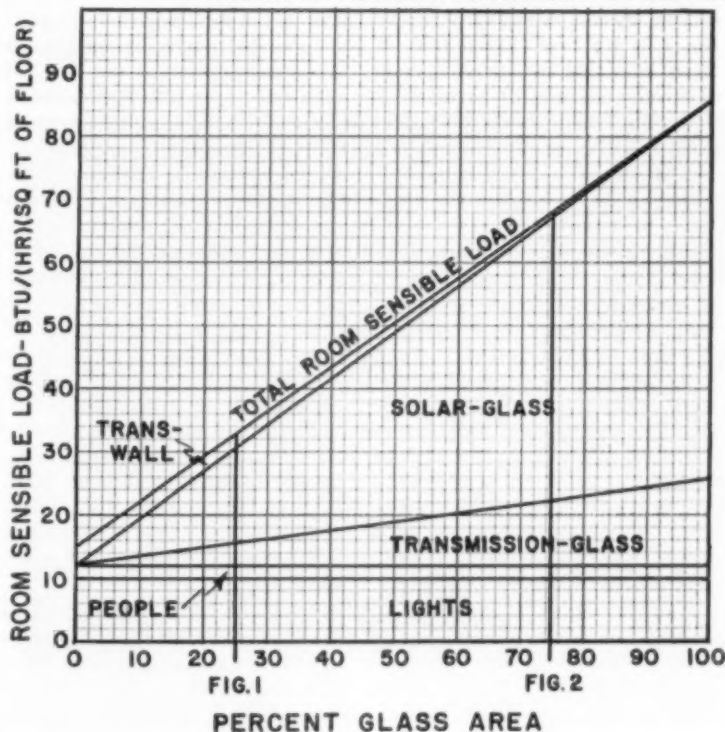
TYPE	GLASS RATIO (%)	DESIGN COOLING LOAD BTU/HR/SQ FT (FLR)					DESIGN COOLING CAPACITY (ROOM) (%)
		SOLAR	TRANS.	PEO.	LIGHTS	TOTAL	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
FIG. 1	24.5	15.1	6.0	1.7	10.2	33	100
FIG. 2	74.0	45.8	10.3	1.7	10.2	68	205

TABLE 2

TYPE	GLASS RATIO (%)	FIRST COST RATIO (%)	OPERATING COST RATIO (%)	TOTAL OWNING AND OPERATING COST RATIO (%)	FIRST COST \$	FIXED CHARGES \$	OPERATING COST \$	TOTAL OWNING AND OPERATING COST \$
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
FIG. 1	24.5	100	100	100	4.10	0.315	0.190	0.505
FIG. 2	74.0	133	126	130	5.45	0.420	0.240	0.660

CHART 1

ROOM LOAD VS PER CENT GLASS AREA WEST EXPOSURE, 40° N LATITUDE, 4:00 PM, 95F DB OUT & 75F DB IN. ROOM DIMENSIONS = 15' DEEP X 9'9" WIDE X 8'10" HIGH, WHITE VENETIAN BLIND ON WINDOW.



No. 1 and No. 2 for the solar radiation component of the sensible load—i.e., 15.1 to 45.8 (Column No. 3). For the office modules under consideration, the difference in overall design room sensible load of offices similar to figures No. 1 and No. 2 is approximately 200%—i.e., 33 to 68 (Column No. 7). This means that an office similar to figure No. 2 will require twice as much as an office in figure No. 1 if an "all-air" type system is used, or units of double the capacity if an "air-water" type system is installed.

Table No. 2 is a tabulation of the percentage change in first cost, operating cost and total owning and operating costs with change in glass areas. Assuming the module shown in figure No. 1 as the base (100%), then the first cost for an air conditioning system for figure No. 2 with 74% glass area is approximately 33% more. These ratios are shown in column 3. Operating costs increase appreciably as a result of the greater cooling requirements as shown in column 4 of table No. 2. The significant figure is the percentage increase in owning and operating cost as shown in column 5. Again, assuming module as shown in figure No. 1 as the base (100%), the increase in owning and operating costs of air conditioning for an office as shown in figure No. 2 is approximately 30%.

Table No. 2 also shows the approximate costs in dollars for installation of air conditioning (Column 6), the resultant fixed charges (Column 7), the operating cost (Column 8), and the total owning and operating cost (Column 9). These are average costs for metropolitan areas in the north. They are also the average cost for certain types of air conditioning systems most often used in the large multi-story, multi-room type building.

This study shows only the variation in the sensible cooling load which results from changes in glass area and for which there is a definite correlation. This is not the case for heating, consequently the heating cost variation has been excluded. Specifically, the solar radiation effect, which is the major variable, is sub-

stantially the same for latitudes 30° north to 40° north or for the entire United States. Heating costs are more directly related to areas of the country or latitudes, hence for buildings of similar type and size, the cost variation between southern and northern latitudes is appreciable. It follows, therefore, that heating costs are affected to a considerable degree by the winter outside design temperature as well as glass area. Cost of heating for commercial office buildings of similar design may vary from a low of \$0.03/Ft²/yr for the south to \$0.13/Ft²/yr for those in the northern section of the United States.

Chart No. 2 shows the variation in costs with changes in the design sensible cooling load (change in glass ratio) for an "air-water" system and an "all-air" system.

An "air-water" type system basically is one in which these two media are used for the extraction from or the addition to the conditioned space of both sensible and latent heat. An "all-air" type system is one in which only air is used to perform the above functions. More specifically, an "air-water" type system may be an induction unit system with the induction units located under the windows as shown in figures No. 1 and No. 2 or a fan unit system with supplementary primary air and the units similarly located. An "all-air" type system may be the double duct type with air blender located under the window and the two air supply ducts in riser chases somewhat as shown.

This chart shows the relative costs of these two basic systems. For example, the "all-air" type system will require more useable space or cubage for the air treating assembly and for distribution to the conditioned areas. The operating costs will be higher at higher loadings (larger glass areas) because of the large volumes of air required to absorb the sensible heat, and the fixed charges will be higher because of the greater initial investment.

Total owning and operating cost data from table No. 2 is an average for various types of systems while data shown in chart No. 2 is for two specific types of air conditioning. The

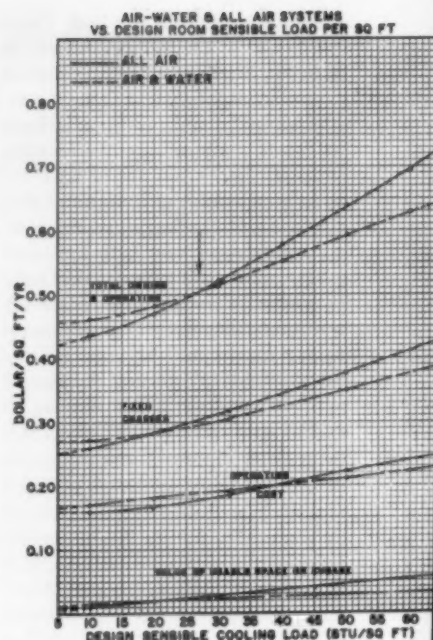


CHART II—TOTAL COSTS

fixed charges, operating cost and overall cost figures, therefore, are not exactly comparable. An office module with a design sensible cooling load of 53 Btu/Ft²/hr, will have a total owning cost of \$.60 per sq. ft. per year with an "air-water" type system and a total owning cost of \$.65 per sq. ft. per year if an "all-air" type system is installed.

The inside area or the interior zone, as it is often called, is not affected by the glass areas of the exterior or peripheral zone. The year-round cooling of this area is a completely separate problem and not considered in this study. The heat gain to the interior area consists of lights, electrical equipment and people and is a stable cooling load throughout the year.

In summary, therefore, it may be stated that the larger the glass area, the greater the air conditioning load and, as a consequence, the higher the first cost as well as the operating cost for air conditioning. Specifically, for these two type modules as shown in figures No. 1 and No. 2, the difference in owning and operating costs for the air conditioning system, exclusive of heating costs, is approximately 30%.

The Planning Aspects of a Nuclear Science Center

CHARLES E. LAWRENCE

Based upon an address delivered at the First Annual Texas Conference on Utilization of Atomic Energy, at Texas A & M College. Mr. Lawrence is Director of Design in the Bryan, Texas, office of Caudill, Rowlett and Scott.

WE DEFINE A NUCLEAR SCIENCE center as a facility dedicated to *education and research*. Because the planning aspects are varied, there is need for a comprehensive approach to relate them. I have a hunch that many of the people planning nuclear facilities are too close to details to be comprehensive in their approach. I do not pretend to understand the many detailed and complex problems of nuclear science, but I do represent a profession geared to the comprehensive approach.

Consider some of today's architecture—the Palo Alto Hospital and Stanford Medical Center—architect Edward D. Stone has no doctor on his staff. The Brazos County Court-

house and Jail was designed by Caudill, Rowlett and Scott—we have no judge on our staff. These buildings would not be what they are if they had been planned without medical doctors or judges. Nor would they be what they are if planned by medical doctors or judges. Looking at present nuclear buildings, I get the impression that they were planned by the nuclear "doctor," or "judge" and lost the value of a comprehensive approach.

What are the aspects of planning a nuclear science center that should be given this approach? Without biting into the aspect of regional planning, I would list five:

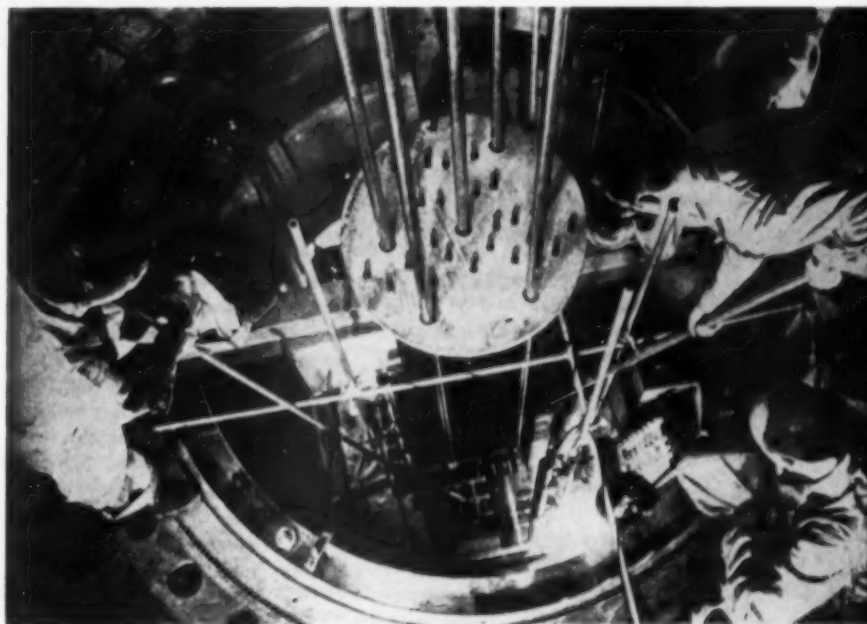
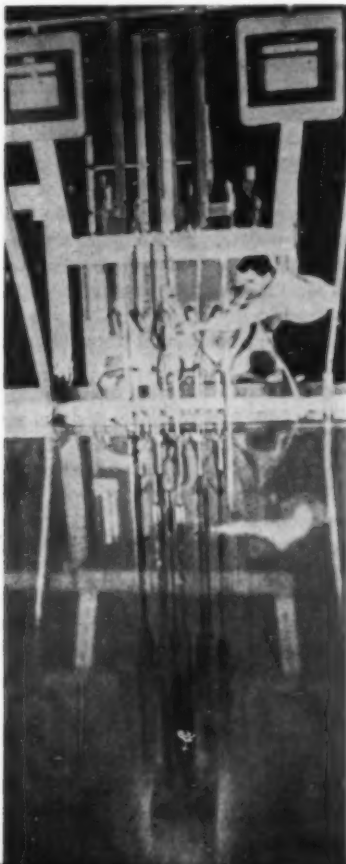
- safety
- component function
- integration of component function with facility function
- flexibility
- human values

Safety and function I will leapfrog—they are so important that they are always thoroughly thought through. The last three are the additional aspects encompassed by a comprehensive approach.

Integration of component function with facility function calls for a realization that proper function of the nuclear hardware is a solid beginning but not the end. It must be integrated into and related within the facility that will house the hardware. This is a job of analyzing function and plan-

US POOL REACTOR AT GENEVA.

INSIDE A REACTOR.



ning the spaces for these functions to happen efficiently.

An authority recently told me that there are two kinds of nuclear research facilities—abject failures or booming successes. He went on to say that the success is measured in terms of the backlog of research projects under contract. Now if finance is the yardstick of success in a nuclear facility, it is two steps too short—one, flexibility—two, human values.

Failure to take the step toward flexibility will result in a shortsightedness which can trip that financial picture at the drop of a new brain-storm. Let me define the word flexibility. It has really taken on three meanings:

- versatility—to serve several different functions well
- convertibility—to alter easily and adapt to changing needs
- expansibility—to take additions without complex alterations to the original space

Since change is the essence of research and one of the sure aspects of nuclear science, all three meanings of the word flexibility are important. Versatility, convertibility and expansibility should enter into the design function and relationships of the spaces surrounding the reactor. The reactor itself is an immovable object which physically limits convertibility and expansibility. But versatility—multiple performance—can and must be built into its basic concept, or it could be stamped “obsolete” even before it can go “critical.”

We sell ourselves short when we fail to take the step toward human values. Listen to this short burst from “A Song for Occupations” written by Walt Whitman:

*“The President is there in the White House for you,
It's not you who are here for him.
The Secretaries act in their Bureaus for you,
Not you here for them.
The gist of histories and statistics as far back
As the records reach is in you this hour,
And myths and tales the same.
If you were not breathing and walking here,
Where would they all be?”*

Doesn't this also apply to a nuclear facility? Without you, the human, where would nuclear science and all its components be? Usually they are wrapped in a building to keep the rain off; a building which does that job in much the way a scarecrow chases birds out of a cornfield. But that “raincoat” is also there to enclose the human being, to allow him to function efficiently and work effectively. Surely, nuclear science is so fascinating that it can blind human consciousness to its surroundings; but isn't there more chance for creativity in a live environment than in a sterile one? Isn't there more chance for achieving greatness in a facility dominated by humanism than in one dominated by machine?

There is a dramatic contrast between present nuclear facilities and beauty—no wonder! Dr. J. Robert Oppenheimer, the noted scientist, was quoted in a current article. He had this to say, “In the difficult balance of teaching, we tend to teach too much in terms of utility, and too little in terms of beauty.”

Dr. John Ely Burchard, Dean of Humanities and Social Studies at MIT, in speaking to a group of architects last year, said, “. . . orderly and efficient planning, convenient human use,—all this is not enough—and buildings without beauty are not architecture.”

These words may sound *high*, but the cost of the beauty they refer to is *low*. It costs no more than the time it takes to be concerned. It costs no more than the ugliness that may result where there is no concern.

Sir Christopher Hinton, director of Great Britain's giant nuclear engineering projects, believes that the development and exportation of nuclear facilities may set off the second jump of the Industrial Revolution. Have we mastered the first jump? If we're on the edge of another, is humanism to stumble further? Nuclear buildings today (like industrial buildings several decades ago) have no precedent in history. No one carries a preconceived mental image of what they should look like. Given this freedom, we have settled for buildings that sell the opportunities short. I'm afraid we are setting a precedent today that

makes me feel sorry for tomorrow.

Just agreeing that the five planning aspects are important is not going to assure a well-planned facility. The key is procedure—planning procedure. During a recent trip we talked with a member of the AIA Committee on Nuclear Facilities and with men responsible for developing nuclear facilities at two of our large eastern universities. All wanted to discuss one thing—procedure. This is even more significant when you consider that one of the universities had already “procedured” its way through one-third of the planning.

Compared to other buildings, all nuclear facilities are unique. It is obvious then that the best planning will demand *unique procedure*.

Three groups are generally involved in planning a nuclear science center:

- owner
- component supplier
- architect-engineer

Logic seems to call for the owner to select a component supplier in the beginning to program requirements, analyze needs, and develop solutions to these needs—all with comprehensive guidance. This would assure everyone's becoming more than just involved. They would be *integrated* into a joint team effort.

To achieve this we all must realize that a nuclear facility cannot be procured like just another college dormitory. Yet, too often the same pattern is followed: design, then competitive bidding to determine who shall fabricate and build. Nuclear component design engineering—specific enough to pinpoint the bidding—is so customized that the designer is most logically the fabricator. Why not select the component supplier as a charter member of the planning team?

We in architecture must make our effort. We can no longer cry that we are being forced to design blindfolded. Several years have passed since the security barrier was lifted on enough information to allow a schematic knowledge of the function of nuclear components. This knowledge is a prerequisite to the functional planning of space for these components.

THE COUNT-DOWN and the blast-off have become household and small-fry commonplaces. People are seriously talking of a 250,000-pound, 5-stage "bird" to lay a 50-pound instrument-egg 90 million miles "out there"—near the sun.

There is a 200-page congressional report on "Outer Space Propulsion by Nuclear Energy" and another on "Astronautics and Space Exploration"—1542 pages! We would be out there already if words were an adequate propellant.

Implications of this new age for those of us who must still keep our feet on Earth, and need to plan for useful power, are not quite so glamorous—or hazardous. But the implications of our new four-or-more-dimensional space in the world of power can be exciting and challenging to the architect and we should prepare to take part in it.

REMOTE INSTALLATIONS

The possibility of power brought to remote or less-developed areas is no longer a dream. We are about to untie the apron-strings of power-transmission lines which until now have leashed us to sources and taxed the power received. A city could now be built—including all our light-heat-power devices—in a remote place where roads and railroads do not exist and where no copper umbilical cord binds it to a parent civilization. A nuclear fission fuel charge may be designed to last a year or more and be renewed by annual ship or plane. Such power could pump irrigation water (perhaps de-salt it) to redeem a desert place or it might process mineral resources at the mine with great savings in transportation.

Several projects have been termed "package power plants" but so far their mobility has been in the order of many cargo-plane flights and at least a half-year of construction-installation before juice flows. "Transportable-component power plant" would be a more accurate description.

SMALLER & SIMPLER

The whole character of progress in such matters is one of increasing precision and decreasing size—miniaturization: the vacuum tube replaced by

the tiny transistor, multiple signals sent over a single co-axial cable, bulky wiring of electronic components replaced by wafer-thin and easily duplicated printed circuits.

Some of our reactors are tremendous. I have been in several early ones—in their buildings and inside reactor chambers themselves, before completion. They merit our description in an *AIA Journal* article* as Egyptian in scale.

Here are some figures on two of the big ones now under construction:

The Dresden Boiling Water Reactor, near Chicago (for Commonwealth Edison), has a 1" thick steel containment sphere 190' in diameter and will produce 192,000 KW. It will operate at 1000 psi and 500°F.

Indian Point Pressurized Water Reactor, up the Hudson River (for Consolidated Edison), has a containment sphere of 160' in diameter and is rated at 275,000 KW. It will operate at 1500 psi pressure with more than 100,000 gpm of 500°F water—requiring a reactor vessel with walls of 10" thick steel.

Within these truly awesome structures, skilful mechanical and electrical work of great precision is necessary.

Someday there will be simpler methods and smaller structures—when the fear dies down. Much of this extreme care and expense is based on fear. Admittedly this is a dangerous business. To put these

* *Little Egypt on the Savannah, AIA Journal*, September 1954.

ERIC PAWLEY, AIA
AIA Research Secretary

Nuclear Power in the Space Age

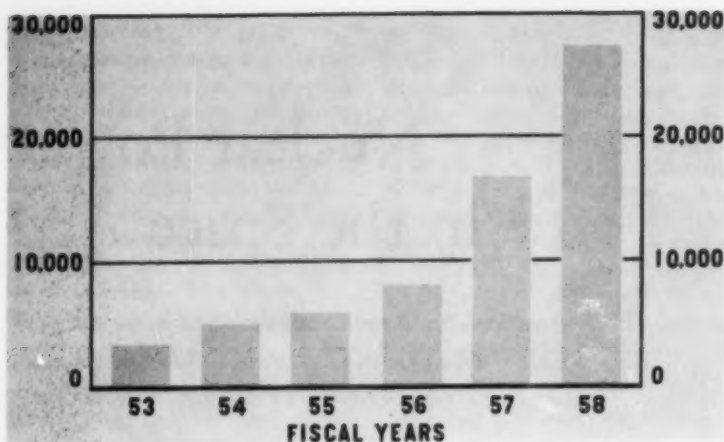
This article is based upon a talk delivered by the author at the Gulf States Regional Conference at Biloxi, Mississippi, in a panel session entitled "Power for the Space Age."

monsters on stream and keep them percolating safely you must be absolutely sure of water-supply, of electrical service in hundreds of miles of wiring, of precision and tolerances of thousands of mechanical parts under operating conditions of these extremes of heat and pressure and corrosive media. Therefore you must have standby equipment, alternate sources, extra parts, expensive full-scale mock-ups to simulate operating situations before you get into them and to train operators who later cannot make mistakes more than once. You also have elaborate warning and automatic control systems. These activities and operations must be sheltered, conditioned and planned for proper and efficient working conditions. An architect belongs in here.

THE ARCHITECT'S PART

Because people need to be shielded from radiation and because less-expensive shielding materials are thick and heavy we are faced with massive structures and structures which will support movable cranes, forklifts, etc., adequate to move heavy shielding blocks, components and containers for radioactive materials. This leads to access and planning problems as well as structural loads of great magnitude. Crane designs: parallel track, center-pivoted or polar, will affect building form and structure.

Site plans are notoriously poor in many existing reactor installations. Organization of parts of reactor and auxiliary structures of course is dic-



INFORMATION REQUESTS FOR ATOMIC ENERGY EDUCATIONAL MATERIAL

tated by physical relationships and requirements of the plant—but many scientists and engineers alike are rather unprepared to recognize the values of that order imparted by competent architectural study which betrays itself as beauty. It takes professional ability—not money—to achieve it but it should be recognized as an essential part of such work because this order is first of all determined by the higher sense of function of which it is the hallmark.

Another aspect of the architect's contribution is his recognition and knowledge of the environmental needs of the people who will work in and operate these plants. I have been in nuclear facility machine rooms where the engineer-contractor had been driven so hard by an erroneous sense of economy in shortening lengths of cheap pipe and ductwork that no one but a tropical snake could work there.

FUEL & WASTE

Our greatest problem, in the interim between fission and fusion power, possibly will be nuclear waste handling and disposal—or, I like to believe—*re-use*. I should say that this problem is one of the great differences between fission fuels and fossil fuels, like coal, oil and gas—the ashes stay too hot!

Another great difference exists between fossil fuel ready for combustion and the fantastically complex hardware of nuclear fuel elements. The homogeneous reactor, in which

the nuclear fuel is liquid, avoids this problem—but such fuels may be highly corrosive and have caused trouble in some installations.

FUSION POWER

I just mentioned controlled fusion or thermonuclear power—the controlled variety of hydrogen bomb. Not so long ago it was forbidden to discuss this in public. There is now an unclassified technical bibliography issued by AEC (May 1958) with 126 annotated references.

The attitude of those working in this field is probably best indicated by the charmingly optimistic name they have given to one of the more promising devices developed for one of the several current approaches to fusion power. This small-room-sized gadget is called a *Perhapsatron*!

This device produces the so-called Pinch effect—which has nothing to do with a Latin-American flirtation but refers to a technique of pinching electrical discharges with magnetic fields—a sort of holding and confining action essential to fusion.

Three additional experimental approaches (among others) are the *Stellarator* (to achieve stellar temperatures), the *Magnetic Mirror* and *Hot-Ion Injection*.

About ten times the effort (in terms of trained professional personnel) is being applied to development of fusion power now as was put on it five years ago. This increased emphasis is due to expectation of following benefits from an effective solution:

- extremely low fuel cost
- practically unlimited fuel (heavy hydrogen exists in all surface waters)
- low radioactivity (possibly no waste disposal problems, fuel reprocessing, etc.)
- expected high plant efficiency

A solution, however, is considered still remote—perhaps we shall have it in the period the archaeologists of AD 4000 will call the *Middle Space Age*—because of two basic conditions for controlled fusion:

- fuel temperatures must be at least 100 million degrees centigrade—capable of vaporizing any material whatsoever
- proper conditions (very difficult to stabilize) must be maintained and confined for an appreciable amount of time (several seconds?)—practical confinement seems attainable only by use of powerful magnetic fields—which in themselves require large amounts of energy

After these major future laboratory breakthroughs there is more to do—to quote Admiral Strauss from a release of January 1958:

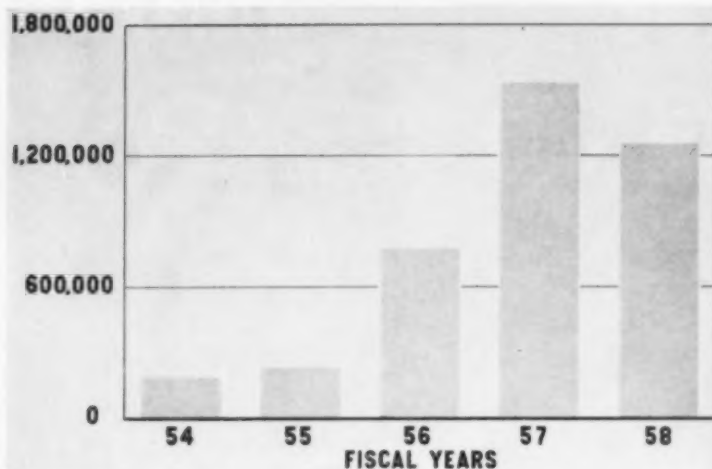
"It appears that years of intensive work will probably be required to develop a *laboratory thermonuclear device* which would yield more energy than it consumes. And after that, it will require more years to develop a *full-scale power reactor*. Therefore, the controlled thermonuclear program will not interfere with the current development and construction of reactors to produce electricity from nuclear fission . . ."

In a June 1958 release Admiral Strauss said:

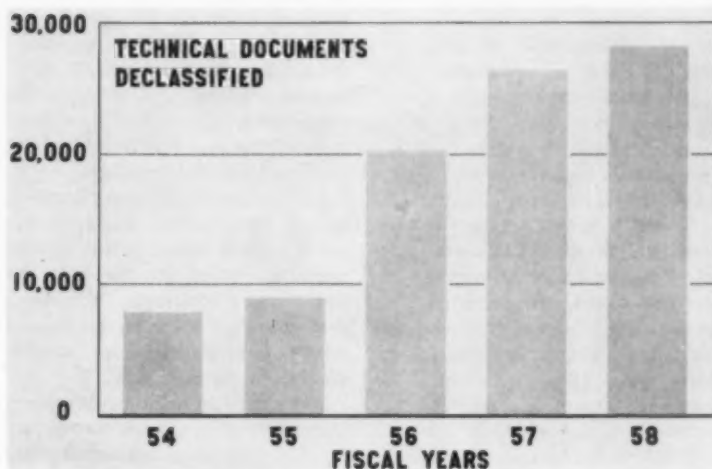
"Research on controlled thermonuclear reactions is being strongly supported . . ."

"Results have been encouraging. Using a variety of devices, our laboratories have attained hot plasmas—bodies of ionized gas—whose energy levels appear to be on the fringes of the thermonuclear range. The observed emission of neutrons from very hot deuterium gas has given direct evidence that fusion reactions are occurring in the gas. Attempts must now be made to increase the thermonuclear energy release by finding ways to heat the gas to much higher energy-levels and to increase the containment time of the extremely hot gas. A real breakthrough has not yet been achieved. . . ."

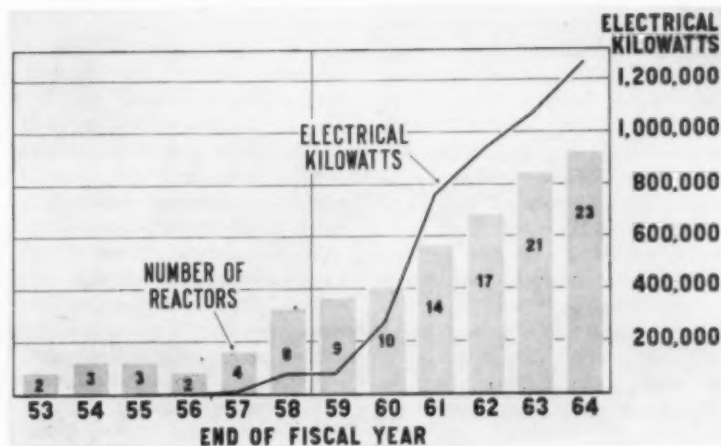
Consequently, since we are concerned with the *Early Space Age*—



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CIVILIAN POWER REACTORS

we shall probably have to get along with nuclear fission. Indications are that in the next ten years the world's requirements for electric power will double. This urgent need will undoubtedly accelerate the power program. I remember very well, *only fifteen years ago*, receiving a sealed envelope to be opened after boarding a certain southbound train. Inside were a ticket to Knoxville and the name of the Andrew Johnson Hotel and nothing else. In fifteen months we built a city that at that time had not yet been named—*Oak Ridge*. Fusion power, like other "impossibilities" will take a little longer.

POWER REACTORS: US & ABROAD

The latest AEC semi-annual report tabulates data on civilian nuclear reactors and reactor experiments, *built, building or planned* in the United States (as of June 1958) as follows:

- 31 high temperature reactors (suitable for power production) 8 operable 1958
- 164 low temperature reactors (for training & testing—not power) 74 operable 1958 (these include 28 designed by U. S. for foreign sites)
- 67 critical assembly facilities (experimental work) 50 operable 1958

An AEC release of June 1958 states: The 8 civilian power reactors and reactor experiments operating in fiscal 1958 will produce 78,000 KW. 23 will be in full operation by 1964 (in 6 years) and will produce 1,300,000 KW. The release continues:

"The pending agreement with the 6-nation EURATOM group contemplates US assistance in the construction and operation by 1963 of reactors to produce 1 million KW of electricity. (A target of 15 million KW has been set for 1967—the 1 million is US-assisted.)

"Serious problems remain to be solved before we have a self-sustaining nuclear power industry. It is not yet clear that a nuclear power plant can be built to generate electricity as economically as a conventional plant in the US. In Europe, nuclear power can be competitive almost immediately. We hope, by building reactors for our friends in Europe who need them, to learn how to build and operate reactors that will be economical in the US . . ."

A US Department of State report released August 1958 points out:

"Countries building reactors must have access to reliable supplies of the special reactor fuels such as U^{235} and Plutonium, which are expensive and difficult to produce . . ."

"Studies must be made to discover methods of disposing of . . . wastes so that they do not contaminate the earth's surface . . ."

Many of these international problems—including studies of small and medium power reactors and disposal of wastes at sea—are in the scope of the International Atomic Energy Agency, now ending its first year of operation.

AIA ACTIVITIES

The AIA membership should be proud of its pioneering ten years in this field. The story of the AIA Committee on Nuclear Facilities from 1947 to 1957 appeared in *AIA Bulletin* (Mar-Apr 1954) and *AIA Journal* (Aug 1957) and I'll not repeat it here. This is no time to relax our efforts to find the architect's place in this many-billion-dollar construction program—the largest in world history. Although the AIA Board of Directors abolished this committee in 1958—on the action of Director John Pritchard it set up a small study group to work on a new assignment—a program for an "AIA Committee on Science & Architecture," to include architectural implications of solar as well as nuclear energy and other new aspects of this Space Age.

ACCESS TO INFORMATION

How can an architect get information on nuclear power? How can he qualify for work in this field? Must he have clearance? Is everything classified?

The AEC has done a tremendous job since 1955 in breaking down the barriers. The charts reproduced here show part of the story: technical documents declassified, technical documents distributed to the public and information requests for AEC educational material.

AEC has regional depository libraries—at major universities and in



CIVILIAN POWER REACTORS—1964

certain larger public libraries—for "essentially all" nonclassified reports. Special bibliographies exist or are being prepared on practically every phase of the work—even in several languages, including Russian!—for the international congresses. Contract procedure is outlined in one publication.

Finally, clearance regulations have been streamlined. As of June 1958, active 2-year access permits for secret and confidential restricted data totaled nearly 14,000 (Q)—for access to confidential restricted data about 9,000 (L). These latter L-clearance access permits can be granted in a relatively short time and it is my understanding that nothing related to civilian power reactors themselves has any classification.

This is in great contrast to the situation of only five years ago when the kinds of detail now shown in nonclassified publications and in public films could be seen, even by Q-clearance holders, only after long preparations, elaborate security protocol, badge-swapping at several gatehouses and in escorted tours.

THE CHALLENGE

I'll not try to outdo the science-fiction writers with predictions of a nine-inch cubical blackbox which will supply all our household power for a year. If this happens (in the *Late Space Age*) it will more likely be a result of radio-transmission of power from a central plant than lo-

cally-contained fission or fusion. Without discounting the importance of the autonomous building idea—the house cut loose from all utility connections—let's look at a large and important kind of architectural business for the near future—*ESA* (you guessed it—*Early Space Age*.)

Just as some architectural offices have participated in producing our most notable laboratories, powerplants, dams and bridges—so architects can contribute something needed and of value in the field of design and planning for nuclear facilities to be built now.

It has been an uphill battle to keep recognition alive because certain professions and large engineering-construction firms are eager to monopolize this work. AIA has kept its foot in the door at AEC headquarters but it's up to individual architects to keep alert to opportunities for university and utility reactors and related facilities. They desperately need good planning for human use and working conditions. Left to scientists and engineer-contractors they can be botched-up eyesores incapable of reasonable flexibility or expansion.

After my recent review of AEC documents for this talk I'm going back to explain to some of their editors the error in that caption they love to use for a preliminary sketch or rendering: "An artist's conception of the proposed building!"

In the Space Age—there is room for architects!

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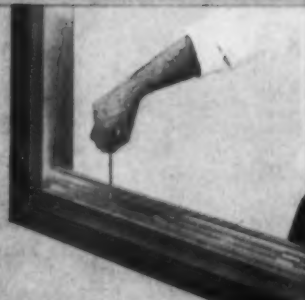
HERE'S HOW EASY IT IS...



The larger sash, No. 67, is for regular installations. Inset shows sash No. 68 for interior glazing and small glass areas.



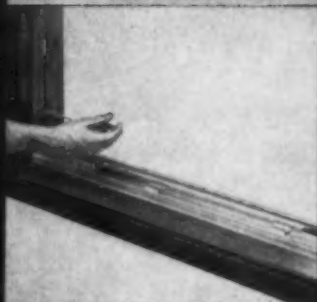
Apply caulking to the groove in the base of the sash.



Attach the back and base member to the sill.



Insert the non-slipable setting block. For sash No. 68 drill 1/4" hole for nylon setting block, insert nipple and snap into place.



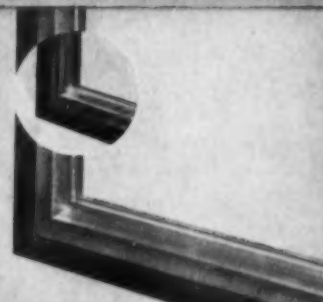
Attach the back member to the side jamb.



Place the glass on the setting blocks.



Snap the face member into the clips from exterior side.



The assembly is complete. Dry-set vinyl glazing gives neat corners—glass is clean. Smaller picture shown No. 68 sash.

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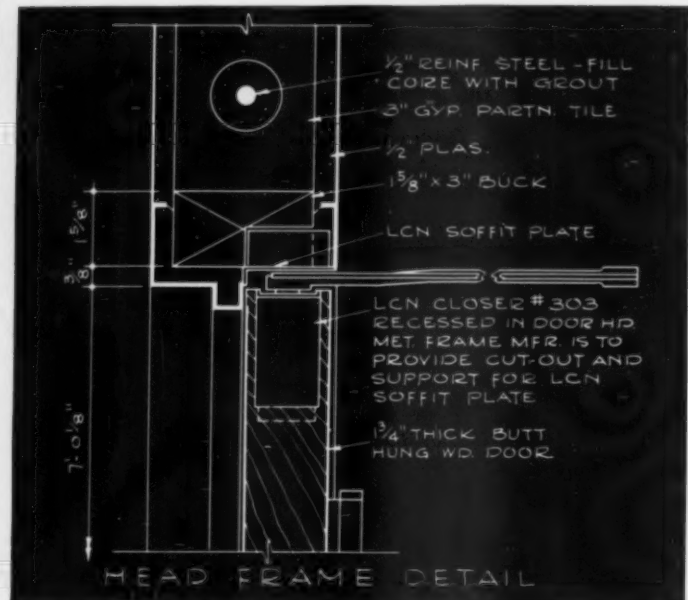
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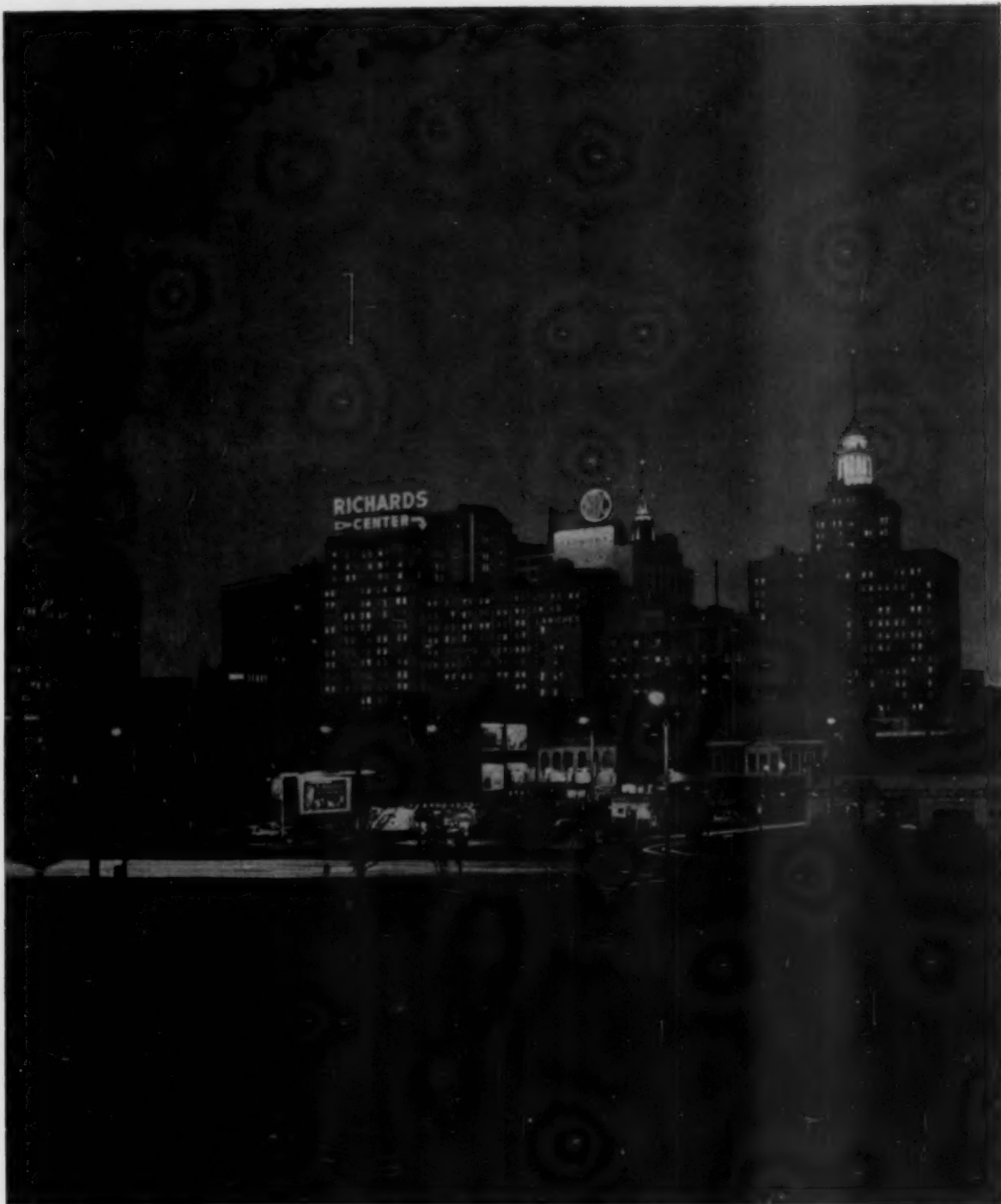
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Construction Details on Opposite Page





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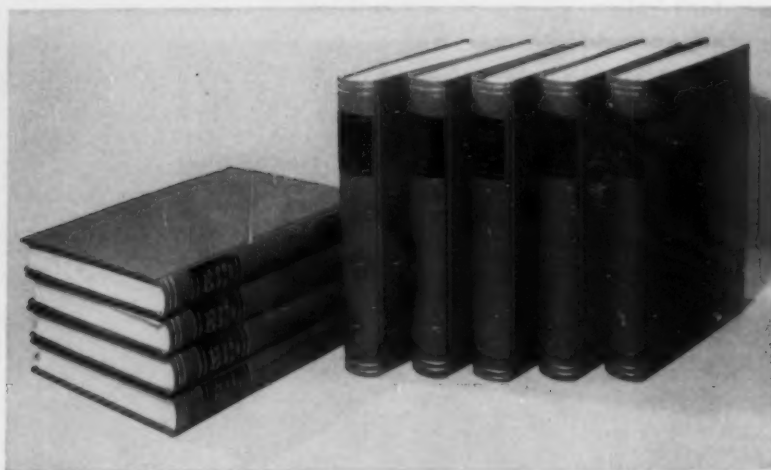
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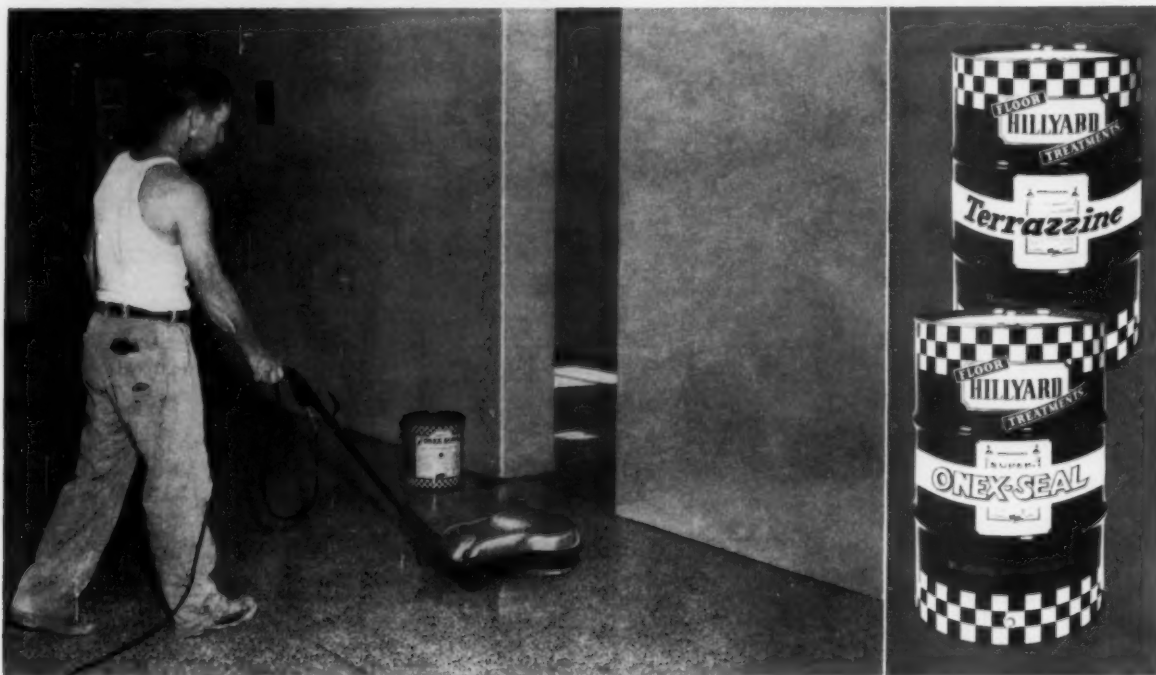
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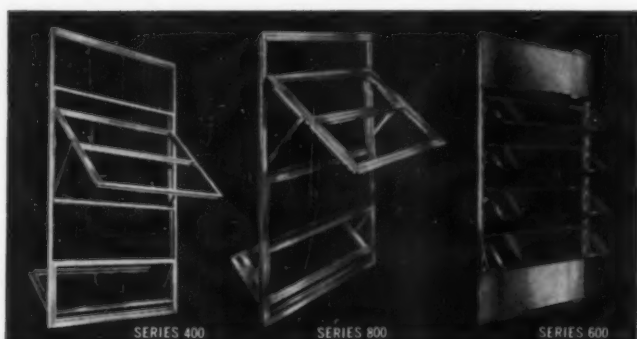
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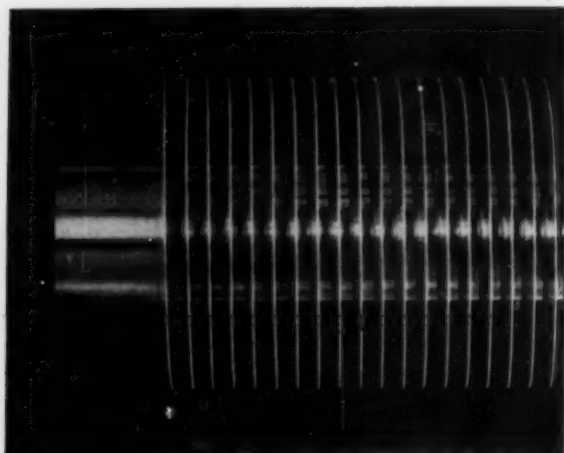
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